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THE  
AMERICAN  
JOURNAL OF INSANITY.

EDITED BY THE

MEDICAL OFFICERS OF THE NEW YORK STATE  
LUNATIC ASYLUM.

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VOL. XXV.

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The care of the human mind is the most noble branch of medicine.—GROTIUS.

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STATE LUNATIC ASYLUM.

UTICA, NEW YORK.

1868-9.

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ROBERTS, PRINTER,  
HERALD OFFICE, UTICA.

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AMERICAN  
JOURNAL OF INSANITY,  
FOR JULY, 1868.

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CASE OF MRS. ELIZABETH HEGGIE.

On the fifteenth day of June, 1864, Charlotte L. Heggie, a daughter of James M. Heggie and Elizabeth Heggie, of Ithaca, Tompkins county, in the State of New York, died at her father's residence, at the age of twenty-one, after a short illness; and under circumstances so like those attending the death of an elder sister, Mary, about eight months before, and otherwise so suspiciously, that the coroner deemed it necessary to hold an immediate inquest to ascertain the cause of the death. A *post mortem* examination was made, and the verdict of the jury was death by poison; and the coroner, on the advice of the district attorney, at once apprehended Mrs. Elizabeth Heggie, the mother, on suspicion of having administered the poison.

It is not our purpose to examine the evidence proving the fact of the poisoning, and fastening it upon the alleged culprit. These points are assumed to be conceded. They do not seem to have been very tenaciously disputed by the counsel for the defence, and may, indeed, be fairly considered as confessed by the culprit herself. The crime, however, was so horribly unnatural as at once to impress many minds with a conviction, either that it was not possible that a mother should have committed it, or that, if she had, she was unquestionably insane.

The case so far as it calls for any notice from this Journal, depends upon the question of insanity as disclosed by the voluminous evidence. We have carefully perused the whole, as well that on the preliminary as that on the main issue, as it was minutely taken down by an official reporter; and shall give such a condensed abstract of it as will cast an impartial light on the question that specially concerns us.

The whole life of the defendant was retraced with much particularity on both issues. The preliminary issue was tried in April, 1865, in the county where the offence was committed, and occupied five days. The difficulty of obtaining an unbiased jury on that occasion, grew, in consequence of the increased publicity and agitation of the matter, into an impossibility of doing so on the trial of the main issue, compounded of both the guilt and the insanity. To try this, the whole panel of jurors summoned was first exhausted, and then the whole jury list of the county; and out of the whole three hundred or thereabouts, not twelve men could be found, who were not excluded either by peremptory challenges, or for confessed or presumed bias. It was therefore determined to try the case in Cortland county. Both trials were before Justice Mason, of the Supreme Court, now of the Court of Appeals. The government appeared by Cochrane, Attorney General, on the preliminary issue, and by Martindale, his successor, on the main issue, assisted by Mr. Wilson, District Attorney of Tompkins county, on both. The defence was managed by Mr. Tremaine as leading counsel.

The preliminary trial decided simply the question of present sanity, after the hearing of several medical experts, by a verdict that the culprit was then sane; by which was meant that she was legally capable of a defence on her trial: that, in other words, she did not,



in the judgment of the jury, fall within that humane provision of the statutes, that "no insane person can be tried, sentenced to punishment, or punished, for any crime or offence, while he continues in that state."

The principal testimony given on the preliminary issue was substantially repeated afterwards (excepting that of Dr. Butler, of Hartford,) on the trial in chief; and it is therefore unnecessary further to refer to it, except possibly to explain or elucidate the meaning of the witnesses, or to note variations in their testimony.

The trial of the main issue was held in Cortland county, in May, 1866, about two years after the homicide, and occupied about ten days. The plea of insanity was interposed for the substantial defence. The uncontroverted, proved, or admitted facts were these:

Elizabeth Heggie, whose maiden name was Kendall, was born in December, 1818, at Wilkesbarre, Pennsylvania. She was a third or fourth child. Her maternal grandfather was reported to have died insane, and one of her brothers was insane twice at intervals. Her mother was in low spirits, and often found weeping, just before Elizabeth was born. One cause assigned was a pecuniary misfortune of the family that happened about that time, and threatened distress. In her advanced years she had a profound faith in electricity, as a medical panacea, and in her success in applying it; which was adduced as an evidence of her tendency to insane delusions.

When three or four years old, or when she was old enough to be about, Elizabeth was picked up one day in a senseless condition, on the ground, at the foot of a flight of outside-stairs, without a railing, leading to the second story of the dwelling, from the top or some tread of which stairs she was supposed to have fallen. Prior and subsequent to that event, during her childhood,

she had convulsions or fits. When found, her head was swollen from a blow, and she was at first suspected to be dead. After recovering from that, she grew up without much association with playmates, and without much fondness for childish social amusements. She is described as "a poor, sick, puny child," "too weakly to go to school for years," "always stupid," "often alone amusing herself." She was sly, suspicious, and a listener. She stealthily pinched little children. She was no favorite with her sisters, and was rather shunned by them and by the family generally as a disagreeable child.

At about twelve, she went to school for two or three quarters; and her teacher reports of her that she was not appreciative, but dull and taciturn; not playful; and at times showing a sad and sullen spirit. "She was not a particularly bad girl, was not quick to learn, and was not troublesome. She found it difficult to commit the multiplication table, but read and wrote."

At about eighteen, she was married; and became afterwards the mother of nine living children, (having two and probably four miscarriages,) the intervals of birth varying from thirteen to eighteen and twenty-four months. She was kind to her children, and vain of them, while they were young; but as they grew up, treated them with short speech and unkindness, showing some favoritism. She was a notable housekeeper, dispatchful and laborious, and showed good taste and thrift in her purchases for the household. She was of a quick temper. In her family, and in her intercourse with her sisters and their families, she was moody; sometimes lively and sometimes sulky; muttering when alone; frequently in tears; shutting herself in her bedroom for hours when something went wrong, or she was thwarted in her expectations or intentions; complaining



frequently, for eight or ten years before her trial, of headaches (which the family physician says were sometimes nervous and sometimes sick-headaches, but not more frequent with her than with many women) and of want of sleep; sometimes expressing herself as having no friends, and wishing she were dead.

As her children grew up, particularly her daughters Mary and Charlotte, she had frequent petulant, abrupt, and hard words with them; chiding them harshly and threateningly, violently wrangling with them, and denying them company; on one occasion locking them out, on another cutting off the gas to drive away their visitors, and on another putting her silver and linen under lock and key that it might not be used by them during her temporary absence. They were now young women of marriageable years. She frequently expressed a suspicion that they were supplanting, or intending to supplant her, in the management of household affairs, and on one occasion, at least, wished they were dead. When she heard that Charlotte was about to return home from a visit to the west, she wished the cars might "smash up" on the way. To her family and relatives she showed peculiarities and traits that do not appear to have been observed by her less intimate acquaintances. They speak of a glaring eye, a downward look, and a silly, idiotic laugh which accompanied silly and unmeaning remarks; of her little or no conversation; of her untruthfulness, inconsistency, and self-contradictions; of her remarkable fondness for seeing funerals and horrible events, hurrying forward unseemly to be the first to see a corpse, and curious about sad accidents. These traits were not observed much, and many of them not at all, by mere acquaintances and neighbors on terms of ordinary social intimacy, or by those she met in shopping or otherwise casually.

Her conduct seems, during all her life, to have been mortifying to her sisters when in her company in the presence of others, and she took much to heart little criticisms and corrections of her daughters respecting her modes of expression in her table talk. On one occasion, when there was a turkey for a dinner, she used the word "stuffing," and her daughter Charlotte said "you mean *dress*ing, mother," she rose indignantly from the table and left the room. On another occasion, when she was complaining to one of her sisters of her children not treating her well, saying "they wanted to run over her," the sister replied that "if she would treat them as a mother ought to, and not be always finding fault with them, they would treat her differently," she was so much offended that she would not speak to her again "for months." "She disagreed with all her friends." She was a professor of religion, a member of a religious society, and a pretty regular attendant on divine service. She was not apparently much enlightened on religious matters, and could not be engaged in much conversation respecting her spiritual state. She participated in the benevolent labors of a sewing society, taking some pride in entertaining it at her residence, as well as in entertaining visitors.

As has been intimated, most of the singular traits of looks, manners, and character thus far detailed, were testified to by the family connections of the defendant, who were naturally concerned for her exculpation, if not from particular affection for her, from a desire to prevent a great family disgrace.

There does not appear to have been any recurrence of the fits or convulsions that attended her infancy, after the age of puberty, or from before the time she attended school (about twelve) until on one occasion five or six years before the trial. She then attended a Sunday



morning service at the Baptist Church, instead of her own, and was seized there with a fit or convulsion, accompanied by a shriek that startled the congregation. She was forthwith carried by the sexton into the vestibule, seated on a chair, and a physician was sent for. He found her apparently going into a sleep. She said nothing, and he did not know whether there was any consciousness. There were some slight convulsions. Her breathing was hard at first, but soon became more natural. Her pulse was full and rather strong; but gradually subsided in its force and violence. He did not think it was decidedly a case either of epilepsy or of hysterics. She would not answer his questions. She seemed unable to support herself, and leaned against some persons by her as she sat in the chair. Her eyes were closed; the mouth not drawn open. The symptoms were such that he thought she would soon go to sleep. In that condition she was taken home, he going with her and the sexton in a carriage. She partially assisted herself into the house. He remained about half an hour or more, and when he left thought she was asleep. He did not visit her again. She soon recovered. The sexton says that while she was sitting in the chair in the vestibule her eyes were shut, and when she was put into the carriage they were open. As some stress was laid upon this occurrence to color the defence, it is necessary to add that she herself afterwards explained it sufficiently perhaps, if truthfully, when she told the sexton that she and her husband had quarreled that morning, and that was the reason why she had gone to the Baptist Church instead of going with him, and "while thinking over what had happened she got so mad she could not hold herself; but," she added, "I knew what I was about all the time."

Respecting her conduct just previous to and during the last illness of Charlotte, there is much testimony bearing upon the question of her guilt, and perhaps no less important as touching the question of her sanity. It is therefore given with more detail.

The defendant had been with her husband on a visit to New York, where they had spent a fortnight. The morning after they returned, the mother, finding that the table linen had been used, inquired of a younger daughter, whether Charlotte had had company during her absence; and being informed that she had, remarked that "the next company would probably be her funeral." Within a day or two after, Charlotte was taken sick, and the family physician was called in by a hurrying message from the mother, who opened the door for him the moment he touched the door-steps, and immediately on his entering closed the door upon him, and requested him in an anxious voice to tell Charlotte that "her *father* had sent for him;" assigning, when questioned, for a reason, that "she would not follow his prescription unless she thought her father sent him." To his question what was the matter with Charlotte, she said; "she was very sick, that she was just as Mary was, and that she did not believe that she would ever get well." To his surprise, on starting to ascend the stairs to her room, he saw Charlotte at the head of them, dressed for the day, who insisted on coming down to the sitting room. On examination he found her pulse rapid and small, her tongue of a grayish color with redness at the tip and edges. She said she had been at the club room, (where were meetings to do work for the soldiers,) the day before, and had vomited freely, and felt better; but after supper time, was taken again, and suffered severely in the night by burning pains in her stomach and griping of the bowels. She had taken little dinner, and no



supper. He prescribed for her, and, as he was leaving, asked, before the mother, if he should call the next morning. Charlotte said she thought she would be well then, and expressed a reluctance to take the medicine he left with her. The mother said, if she was not decidedly better in the morning, they would let him know. He was not sent for again. This was Friday.

After the physician left, a female cousin came and stayed with Charlotte during her sickness. They walked out together after tea that day. At night, Charlotte took the medicines as prescribed (first, one powder consisting of calomel and rhubarb, and afterwards a Dovers powder,) expressing a reluctance to do so, and a wish that she might have a homœopathic physician. During the night, she vomited and purged four or five times, and the next morning she was quite weak. The same day she ate a small bit of toast and drank some black tea in the evening, which was poured out at the tea table by her mother, and handed by her to Charlotte. She had taken black tea on one or two occasions before that at the table, and had complained that it gave her an ill-feeling. Her mother had said that she thought it would be better for her than drinking so much cold water. She vomited some of it. On Saturday or Sunday evening, her mother prepared some fresh black tea, and wished the cousin to urge Charlotte to drink it. Charlotte took some of it, but did not retain it. She rested better Saturday night than the night before, with less vomiting and purging. She had complained for some time of a distressed feeling in her stomach. She dressed herself, with assistance, Sunday morning; but seemed very weak, and her illness increased. Some panada was prepared for her by her cousin; but she took very little of it, and drank occasionally of the black tea, but did not retain it. The

sickness and vomiting continued through Sunday and Sunday night, with less violence. The mother went to church Sunday morning. Monday morning, she went out and bought half an ounce of arsenic at a druggist's, saying to him that "the arsenic she got before was not very good, and she wanted some better than that." She had bought some the Saturday before at another shop. The druggist, after learning from her that she used it on bread and butter to poison rats, told her to use it with Indian meal. She then voluntarily spoke to him of the illness of her daughter, saying that "she was taken sick very much as Mary was, and she feared she would not recover." During this Monday morning, the cousin prepared some gruel at the mother's request, she supplying the materials,—Indian meal, salt, and water,—saying "she did not know just how to do it, and preferred that she should make it." It was made and left to cool. Charlotte tasted it, and said it tasted good, but would take but little for fear it would make her sick. In the afternoon, the cousin found the mother herself preparing some gruel, and asked her what she was doing. She replied, "she was preparing some new, for the other was too salt, and Charlotte did not wish her to tell the cousin so." She said she had thrown the other away. While she was preparing this, a younger daughter came in from school, and on saying she had been to see a gravestone which was ordered for Mary, the mother said "they would have to make another for Lotty before long." This new gruel was put on the stand, and Charlotte took some of it that afternoon, at two or three different times. She complained that day or the next of its irritating her throat and stomach. She also partook of some oyster broth prepared by her father. She seemed to rest quite easy Monday night. Her hands and feet were cold from the first of her sick-



ness. On Tuesday, in consequence of her complaints of her throat and stomach, her homœopathic physician prescribed a preparation of marsh-mallows to relieve the irritation. She could not retain anything on her stomach. The cousin was absent during the forenoon, leaving Charlotte in the care of her mother; and on her return, at noon, did not find her any better. She took no medicine except the throat wash, which she spoke of as producing a pleasant sensation in the mouth. The gruel was not continued. She was very restless and delirious all Tuesday night, complained of an inward burning, and threw herself from side to side of the bed; and in the morning of Wednesday the coldness of the extremities was particularly observed. She was very much worse, very delirious, took no nourishment, and, between nine and ten o'clock, died.

Just before her death, while the mother, one of her sons, and others of the family and attendants were about the bed and in the room, the son said to his mother, "Mother, God Almighty knows you had a hand in this!" to which she made no reply. When she died, the mother was weeping violently. The son, on passing out of the room remarked to her, "Woman, you will have something to reflect upon!" to which no reply was given.

Three or four hours after the death, the mother went out into the woodshed, a sort of out-kitchen, where a woman accustomed to do occasional house-work for the family, and who had been sent for to aid them that day, was at work; and placing her hand on the table, said, "she had another affliction,—a hard one," and asked the woman, "Did I not show you arsenic on Monday?" The reply was "No." She rejoined, "Yes, I did." The reply was, "No, if you had I should have remembered it;" to which she rejoined, "I did, but you

were confused." She continued, "I was up street, and got sixpence worth of arsenic,—that it would not mix with Indian meal, and that she had put it on bread and butter." The woman exclaimed, "You don't think Charlotte got the bread and butter!" "No," she said, "but I am glad Bell Kendall (the cousin) had the handling of the medicine." The woman replied, "I hope you don't think Bell gave her any thing." "Oh no!" she said, "but she was glad Bell had the handling of her medicine." The woman added, "I hope you don't think people will censure you," and she replied, "Oh no, but she was glad since it had come to this, and she and her husband thought that Mary and Charlotte took the arsenic to whiten their complexion." The talk was then interrupted by some one calling the mother. It may be added here as a coincidence in regard to the two deaths, that just before Mary's death the mother had bought arsenic.

The calling away of the mother which broke off this conversation was to get her directions for a person waiting to receive them respecting a shroud which she had already ordered for Charlotte's burial. The direction she gave was that it should be "just like Mary's." On one occasion during Charlotte's sickness, while confidently predicting the day and almost the hour of her death, she had remarked, "How splendid Mary was laid out—she looked like a bride," and almost in the same breath that "she did not like burying so many of her good clothes."

There is not much disclosed in the evidence respecting the daughter Mary. It appears that she did not take with forbearance or respect her mother's frequent chidings and coarse, sharp talk, but responded in a like strain and temper, and rather defied and evaded her attempts at discipline. It is shown of Charlotte that,



in general, she was respectful, patient, and filial, although on one occasion she had a violent altercation and personal struggle with her. "She was a bright, intelligent, very pretty girl, and of a good disposition;" but she seems to have felt that her home was a very unhappy place; and when she was summoned by her father to return from a pleasant sojourn in the west "she felt as if a dagger were thrust into her." "Both these daughters," says a maternal aunt, "were fond of society, were educated, accustomed to visit among educated people, and desired to have that class of people visit them."

During the mother's confinement in the jail, she was frequently visited by medical men, and was also of course frequently in communication with the jailor and his wife. From their several testimony it appears that "the ingratitude of her children was the great trouble on her mind." The physician who attended her says that she always complained of her head the first thing; that he observed nothing peculiar about her eye, and never saw her smile or laugh. She never denied the murder positively; but she said that "if she had done it, it was done without knowledge how she came to do it, or anything about it." He detected her in positive falsehoods. She was constantly curious to know whether her visitors were for her or against her. She told the jailor's wife that she hoped to be sent to the Asylum; thought she could be cured in about six weeks or two months; "she was not so bad as she had been;" also, that her counsel and her friends assured her "it would all come out right." She played April Fool's jokes on the jailor; she criticized the testimony on the preliminary trial; called for the village papers and "Frank Leslie;" wanted a new flower border for her bonnet, and some coloring stuff for her hair. She was

deceptive as to her physical condition, claiming, for instance, to be constipated, when there was demonstrative evidence to the contrary, and prevaricating about her medicines.

On the question of sanity, there was a conflict in the opinions of the medical experts who were summoned as witnesses.

Dr. Butler, Superintendent of the Hartford Asylum, who appeared only on the preliminary trial, was not convinced that the defendant was insane; but the evidence showed him that there was a state of mental unsoundness and debility which created in his mind a strong doubt of her sanity. He considered her as a proper subject for an asylum, where the doubt might be solved. He had no decided evidence of ancestral taint, but had of collateral insanity. If it was a case of insanity, it was neither *mania* nor *melancholia*, and was not sufficiently defined yet.

Dr. Brown, physician of the Bloomingdale Asylum for the insane in New York, and for eighteen years connected with hospitals for the insane, drew from the evidence the opinion, which he expressed unreservedly and with the consciousness that perhaps some measure of professional reputation might be at stake, that the prisoner was insane at the time of the alleged homicide in June, 1864. She came from a family in which there was a good deal of insanity, suffered from convulsive disease in early life, had been subject to moody fits throughout life, and then, coming to the evidence connected with the homicide, he interpreted the views which she was said to have expressed as to the measure of authority which she said her daughter was inclined to assume in the household, by usurping her place at the head of the female department of it, as indicating an irrational and insane view of the facts, and as consti-



tuting, in connection with the course she took to remove the daughter from the opportunity of taking her place, an insane delusion; especially when he considered that the maternal instinct is one of the strongest influences of the human mind, and that the mother will do anything for her offspring and submit to any sacrifice for them. He attached very little importance to any single symptom isolated from all others, but preferred to group them together to make a whole, from which to form an opinion. Had there been no sleeplessness in the case, it would not have changed his opinion. He assumed the fact that she was indulgent, fond of her children, and vain of them; glad to have them enjoy themselves; as the basis of her ordinary mode of feeling and acting towards them. He regarded her as always having been a nervous person, but not insane; but had not formed the impression that she had ever been a healthy person. In some cases of *melancholia* or *dementia*, insanity may exist without delusion. He supposed, that at the time of the homicide, the real state of affection between the mother and daughter was different from what it was before. To a question of the Court: Is this a case of insanity without delusion? he replied that he was unable to say; he thought there was a delusion consisting in her belief that the daughter was likely to usurp her own proper measure of authority, and there was no adequate reason for it. He took the evidence as showing an entire absence of convulsions since infancy. To another question of the Court, he said that great and prolonged *melancholia* constitutes a form of insanity whether any delusion can be discovered or not; so that a person may be pronounced insane without any delusion. This was not a case of that kind. He regarded the supposed usurpation of the daughter as the particular in which the

delusion, in his judgment, appeared. Her variable and moody disposition he supposed to represent her natural temperament and ordinary course of feeling and conduct. He did not regard her as insane on general subjects; *monomania* was a much more rare species of insanity than the world at large understands; but he thought it a case of partial insanity. On the evidence he had heard he was willing to regard it as a case of insane delusion. He supposed that she understood the nature of the act.—After hearing the rebutting evidence he adhered to the same opinion he had before expressed.

Dr. Cook, physician of the Asylum at Canandaigua, New York, (who had testified on the preliminary issue,) was of the opinion that the defendant was of unsound mind in June, 1864. An inherited predisposition to insanity,—a nervous convulsive disorder in infancy, resulting in modified or perverted development of the mind, as shown by her feebleness of body and mind in early life,—her slowness to learn,—her inability to acquire more than the simplest forms of knowledge,—the peculiarities of her childhood,—the emotional disturbances extending over the whole period of her married life, but more marked of later years, exhibited by alternate depression and exhilaration, by her frequent fits of weeping and laughing, by her cordiality alternating with reserve towards her friends,—her irritability towards her children,—the indications of mental unsoundness as shown by her impaired intelligence,—her mutterings when she was not conscious of being observed,—the exaggerated importance which she attached to ordinary and trifling events,—the distrust and suspicion with which she in turn regarded her family,—the belief which she seems to have firmly entertained that her daughters as they grew to womanhood were trying to supplant her in the control of her household,



—the belief so held and acted upon; these indications, conjoined with her frequent headaches, her sleeplessness, her irregular habits of taking food, the convulsive attack in church, the appearance of the prisoner in his interviews with her, the condition of the circulation (100 to 140 beats in a minute,)—these were the most prominent indications on which he rested his opinion. From her appearance he was led to think that, at some time of her life, she had had some convulsive disorder, whether of the nature of epilepsy affecting the nervous centres, or whether it had its origin elsewhere, affecting only the spinal column, he could not determine. The latter he called infantile convulsions. As to the question whether she was sane or insane in June, 1864, his mind was involved in some doubt. He was unable to say that in his opinion, positively, and without qualification, using the term “insanity” in its ordinarily received acceptation, she was then insane: he used the words “unsoundness of mind” and “insanity,” ordinarily convertible terms, making in this case some distinction,—not using them as precisely convertible terms. As to any apparent delusion, he was not prepared to say that there was delusion; neither could he positively say that there was not: he entertained a doubt about it, and it was partly on that that he hesitated to pronounce positively upon the insanity. The case was a marked departure from the class of cases to be classed ordinarily as insanity. The facts immediately surrounding the crime were not so fully developed as to make a complete case, upon which he could rest a positive and unqualified opinion. From the incompleteness of the case he could not give a positive opinion.—After hearing the rebutting evidence, Dr. Cook being recalled, gave it as his opinion, founded upon all the facts given in evidence on the trial, and upon his personal examination of the

prisoner, that she was insane in June, 1864; and in answer to a question of the Court: Whether he discovered any essential difference between the evidence upon this trial and that upon the preliminary one which he had heard, he explained that the former evidence was given to him in a very hasty manner, and being immediately called to the stand, he could not give a decided opinion. Since then he had given a special attention and care to the case.

Dr. Gray, Superintendent of the State Lunatic Asylum at Utica, New York, had from time to time had interviews with the accused during her imprisonment between January, 1865, and the time of the trial, on several occasions, and had heard all the evidence on the trial; and taking both together, he would say that she was sane in June, 1864. From his interviews with her, taken collectively, after examining her as to her past life; as to her health in childhood and girlhood, and as she came up to womanhood, through her married life; as to the crime with which she was charged; and as to her intelligence;—going over the *minutiae* of her whole life and habits so far as she would communicate them,—he formed the opinion that she was a woman of very little intelligence, not cultured, and of a very low grade of intellect; of high temper; her pulse varying under conditions of comparative calm and high emotional excitement from 88 to 120; of a very impressible nervous system, and of a highly hysterical type; of little religious knowledge; and very familiar with her household affairs, which seem to have been the entire sphere of her thought and action through life. As to the reasons on which he based his opinion of her sanity at the time of the homicide, the fact of hereditary taint, which he conceived to be very strongly marked in the maternal branch of the family and shown to appear in



collateral branches, accounted for her peculiar constitution of mind and body, inheriting the predisposition to the disease. The convulsions in childhood, during the period of dentition (although he would not say teething was the cause,) probably arrested her development at that tender age of earliest development, as inferable also from the fact that she was a dull, strange, disagreeable, unplayful, taciturn, unsociable child, whose society was shunned by her sisters. Touching her development to womanhood, he accepted her own declarations to him, that her functions were probably regular, and that she was in ordinary physical health. There was nothing to show that during that interval there was any departure from her ordinary health. It was "as good as the common run of women;" bearing children rapidly, nursing the most of her children, and menstruating during a portion of the time of nursing, suffering much from headache all her life, from backache during the nursing, and at one time from what she called a child-bed fever: He enquired particularly as to her climacteric period for the months preceding November, 1863, wishing particularly to know whether she had been unwell before or after the death of Mary, but was not able to get any information. Her account of the family relations was about the same as has been testified to: she complained that her daughters had not been obedient, and that there had been troubles and disputes between them. From the period of early womanhood, in order to arrive at an opinion, he had to consider this ailment or defect which she had,—that she was entirely uneducated,—that she had no cultivation, except what she got by rubbing against society,—that she was suspicious and envious, with the vanity of a weak, feeble-minded woman. The question then presented itself respecting her relations towards her sisters



and others, and he was satisfied that their general treatment of her accounted for her moody, irritable, and variable conduct towards them. She complained of them and did not seem to like them. On a mind of more strength, there might have been a different result,—another impression. She would detect that they, during all this time, must have felt that she was an inferior person. Her treatment of her daughters was what might very properly be said to be unnatural in a woman of intelligence who appreciated her duties. The evidence to his mind was that she got a dislike,—that she was cross, irritable, ugly, and repulsive. These girls were educated girls, above their mother in education and culture in every respect. They wished a progressive state of things in the household; and if she had been an intelligent woman she would have accepted it. She had a pride in being supreme. He had discovered no evidence of a delusion arising out of a disease of her brain: the word perversion or distortion might apply, but that he attributed to defect in character and not to disease. That is not evidence of the actual disease of insanity. She is a person of modified *moral* responsibility. There are different degrees of responsibility measured from the intellectual and moral *status* of the individual. Taking the common definition of the terms *sound* and *unsound* of mind, she was sound in her degree compared with her capacity. She did not originally develop what she might have developed, and there is a defect in the development of the intellectual faculties. Both physical and mental defect exist in her. She had jealousy, suspicion, and distrust, which are common to sane and insane. The real wrongs she complained of might not have affected some minds,—intelligent minds. Many sane persons might act from very slight causes. He saw no element of disease in

the case, of active, operating disease of the brain. There was no delusion: she had perverted views from misinterpretation of the conduct, intentions, and feelings of others. This weak woman misinterpreted the motives and feelings of her daughters. Insanity is a physical disease; and these things are the symptoms of the disease, and whether a delusion is a diseased delusion is a question of fact and not of science. The existence of insanity is only detected by taking the whole case into consideration with all the symptoms: these vary in intensity. The indulgence of high temper would not of itself produce insanity. There was slight evidence of a fall, but he hardly thought there was anything in the case to connect her condition with that fall. He distinguished between a defect and a disease: a child might have a blow on the head which would produce a defect. In incomplete insanity a person may talk rationally on various topics: there are persons with whom you may talk without discovering insanity. He had never seen a case of *monomania*: he did not use the word; but in medico-legal works it was given as a distinct kind of insanity. It is defined to be where a person is insane upon one subject, and sane upon others. Being asked if he doubted whether there is any case of a person being insane upon one subject without touching all, he said it would be going into the region of metaphysics, and he was unwilling to follow the subject there. He had known of insane persons competent to write essays, do acts of business, and have correct views upon certain subjects, without exhibiting insanity, as Cruden writing his Concordance, Dr. Adler his Dictionary, and of several insane persons giving Fourth of July orations. To a question by the Court as to his meaning when he spoke of modified responsibility, he said that he meant *moral* responsi-



bility, and not the *legal rule* of responsibility. Medical writers mainly concur as to the causes of insanity, and in the general outlines as to the indications and symptoms: one great point of difference is upon the question of homicidal impulse.

Several medical men, non-experts, were sworn as witnesses, whose evidence fluctuated from unformed opinions, through various grades of doubt, up to positiveness; but as their views are sufficiently represented in the copious abstracts given of the opinions of the experts, it is only deemed necessary to say that the greater part inclined towards insanity, and should therefore weigh, numerically, in behalf of the defendant.

The report of the trials does not contain the arguments of counsel, and we can only judge of the respective theories of the government and the defence, by the character of the testimony and the charges of Justice Mason, which are fully reported; and so much of them as pertains to the question of insanity and the medical opinions, are here extracted.

On the preliminary issue, he said to the jury, "The law always places great reliance on facts proven, and, as a general rule, the jury are to take these facts alone, in considering the questions before them. In some cases, however, the opinions of experts are permitted to be given to the jury,—not necessarily conclusive or controlling, but to aid you in finding a verdict. I regard them as very safe guides. We need aid and assistance in solving these intricate questions, and are very much obliged for the assistance they render: but the jury are not to cast aside their own judgment, nor should they set up their own judgment against the clearly and positively expressed opinions of these experts. The reason why the laws have allowed us to call these experts is the obscurity which surrounds mental disease. Its



cause and *indicia* lie beyond the line of ordinary knowledge, so that laymen are not able to understand and comprehend them without such assistance. \* \* \*

If there are rational doubts upon the question of her present sanity [the defendant] should not be put upon her trial. That seems to be the rule, and you should in this instance take it as your guide in determining this case. But I ought to explain to you what that rule is. The same rule applies upon this trial [of present sanity] as upon the trial of a prisoner upon an indictment. If there are reasonable doubts of the prisoner's guilt he should be acquitted. \* \* \*

The rule expressed in the books is of rational doubts. It does not mean *speculative* doubts, because there is no case tried but that speculative doubts may be got up over it. There are few cases, if any, where such doubts may not be entertained. How do you know but that a man who swears that he saw a crime committed, lies? How do you know but that a long train of circumstances pointing to the guilt of a prisoner, may lie? We do not know: we cannot know. We never can demonstrate it as a problem is demonstrated. All that we ever expect to attain in these cases is reasonable moral certainty. I do not know any better rule to guide you than to say that the rational doubts which arise in your minds to the benefit of a prisoner, are not such as arise after the reason and judgment of the jury are thoroughly convinced of the facts. The prisoner should be put upon her trial, if your reason and judgment are satisfied that she is now capable of reasonably conducting her defence,—that she has not such intelligence that she is capable of making a rational defence: not that she has the capacity or shrewdness to grasp all the points of the case as her counsel would; because the poor, weak criminal, who knows but right and wrong, can be put

upon his defence, and every such person is capable of making a defence, unless there is some mental disturbance which prevents it. That brings us to the question which you are to determine in this case, and that is, Is this woman now insane? If so, she is incapable of making a proper defence. If she is not insane, she is capable, with the aid of her counsel, to make a proper defence."

The charge went to the jury without exception in any point, and they found the defendant sane.

In charging the jury on the main issue, involving both the guilt and the sanity, Justice Mason on the question, "Was [the prisoner,] under the law, a responsible agent?" said:

"If insane, as the law interprets insanity, she was not: if sane, as the law interprets sanity, she was responsible for the act. My experience in trials of this kind has satisfied me of the obscurity and perplexity that are many times presented in solving the question of insanity. It certainly is perplexing, both to laymen and to the medical profession; and when we go into the books and look for the *indicia* upon which we are to determine a question of sanity or insanity, or ascertain whether a given act is consistent with sanity, we are led into this wonderful confusion, arising from the fact, that the same person, whether sane or insane, has the same emotions, controlled only by a different influence: consequently, if you ask the medical witness whether such and such an emotion is consistent with insanity, he will say "Yes;"—is such an expression consistent with sanity? "Yes." The reason for this is that the same emotions will crop out, whether the person is sane or insane. The case is to be determined by you, upon the evidence, in this branch of the issue; and I will very briefly submit it to you, with such views as



my duty requires. \* \* \* Our law has fixed a standard and measure of intellect to which it brings all persons, and holds them responsible for the crimes they commit. Any person who has a capacity to understand the nature and quality of the act, and to know that it is unlawful and morally wrong, under our law is responsible, whatever perturbation or weakness of intellect there may be in the case. The rule is well stated by Judge Beardsley, in the case of Freeman, as follows: "Where insanity is interposed as a defence to an indictment for an alleged crime, the inquiry is always brought down to the single question of capacity to distinguish between right and wrong when the act was done. \* \* The insanity must be such as to deprive the party charged with crime of the use of reason in regard to the act done. He may be deranged on other subjects, but, if capable of distinguishing between right and wrong in the particular act done by him, he is justly liable to be punished as a criminal." In a recent case in the Court of Appeals, Judge Denio lays down the same rule. (*Willis v. People*, 32 N. Y., 715.) By this standard you are to try this issue between the people and the prisoner at the bar. All the evidence in this case,—as well the evidence to establish fact, as the evidence of the medical witnesses,—must be brought down to this one test. It follows, therefore, that if, when we consider the medical testimony it does not square with this standard, the opinions of the medical men are not to control you. I entertain the highest estimation of the medical profession. I am not one of those who think it advisable to send them from the Court House. They are useful men, and often aid a court and jury in rendering a correct verdict. There are, in the manifestations of insanity, many *indicia* that lie beyond the scope of the common mind; and when



the medical evidence consists of *a scientific opinion upon conceded facts*, it is entitled to respect and consideration from the jury. \* \* \* So far as the opinions of medical men upon questions of *science and skill connected with their profession* are concerned, they are safe guides for us. When their opinions involve the determination of a question of fact, they are not guides any more than any other men, and their opinions are not controlling in the case. Upon the question whether the prisoner at the bar was acting under an insane delusion, in reference to her relatives and her children, Dr. Gray and Dr. Brown may be said to have differed, and Dr. Rhoades and some of the other physicians, I presume. I ought to say that if these opinions are pronounced upon deductions that they have drawn from the evidence, and not from any matter of skill or science, then their opinions do not control us. It is proper for me to say to you, that if the opinions of the witnesses which they have declared before you here of the insanity of the prisoner, cannot be squared by the stern rule of the law, if the prisoner had sufficient mind and intellect to know the quality of the act which she committed, and to distinguish between right and wrong, it matters not how the grade of intellect is,—the law holds her responsible. \* \* \* These medical gentlemen are led to the conclusion that there are certain modified responsibilities, attaching to persons more or less disturbed in their intellect. Dr. Gray said he regarded the prisoner at the bar as a person of modified responsibility, and he meant *morally*, and this is not the rule of medical men alone, but the rule of all. But when you come down to the *legal* rule of responsibility, every man is to be held responsible for a given degree or measure of intellect or capacity. \* \* \* I ought to say to you that while we should pay all proper

respect to medical witnesses, we are not bound by them. Go to the first case in infancy. If these convulsions were clearly proved to be of a certain character, they would evidence brain disease. The difficulty is, what caused them. Children have fits and convulsions from various causes, and this is barely adverted to by the physicians. The fall is the next, and the injury upon the head. If it injured the brain, it might have solved this case. The question is: Did it? Were these epileptic convulsions, or were they something else? None of the physicians have stated that they were. What was the fit in the church? Was it *hysteria* or *epilepsy*? If it was epilepsy, it indicated a disturbed state of the brain, at least; if it was *hysteria*, it was not indicative of insanity. \* \* \* When you come down to the question of what is destined to be the real point in this case to establish insanity, and that is, *the delusion*, it is said to be upon the question of her relations to her daughters; and the defence urge the idea that she had a delusion that her daughters intended to dethrone her in her family, and take the reins into their own hands. The Attorney General denies this, and takes the ground that the case is so destitute of evidence upon that point, that you should not attribute her conduct and declarations to mental delusion, or to insanity upon that subject. Here is the point wherein the medical men come in collision. Dr. Gray sees no evidence of delusion in her, and says that there is no evidence in the whole case of any mental hallucination. Drs. Brown and Cook think they read here a delusion in the mind of the prisoner. You must solve the question in the light of all the evidence in the case, paying all due attention to these opinions. So far as they result from different conclusions upon the evidence, you are not to take them. There are two theories here.



The counsel for the defence claims that the case is so destitute of any proof that such a state of things could have existed, that there is a hallucination; while the attorney-general claims that those feelings were brought out by a state of things that did actually exist. \* \* \*

There is in this case—if you find that here was nothing to constitute a just cause for such a state of feeling upon the part of the mother—reason to believe that she had a delusion that her children really meant to dethrone her in the government of the family; and the question then recurs, Was that delusion one that so overthrew the intellect of this individual as to render her irresponsible in law for her acts? Had she a delusion in reference to this very act of crime, which did not allow her to appreciate that she was doing a wrong act, but which led her on, against her will and reason, to its commission? If she had, she was not responsible in the law: otherwise if she had not. \* \* \*

Although she might have thought that the daughters were wronging her, yet did she think it was right to kill them? Did her delusion go to the extent of justifying her in her act? Was her reason so far overthrown by the delusion, or the error, that she thought her relations to her children were different from what they really were? \* \* \*

From the evidence in this case, are you satisfied that the prisoner at the bar had an insane delusion,—such an insane delusion as deprived her of the power of will, and of the ability to understand the nature of the act that she was committing, and of the knowledge and appreciation that it was morally wrong? If so, your duty is to acquit her; if she had not, she is not exempt upon the plea of insanity. \* \* \*

Our law permits not the conviction of persons where there are reasonable doubts of their guilt. I should say to you precisely what I mean by that. There may,



in every case tried in this forum, be doubts raised as to whether a fact is proved or not. If two men come up and swear to a homicide, we take their evidence and convict. We have no knowledge whether they have committed perjury. Reasonable doubts are not doubts which may arise in a speculative mind, after the reason and judgment are thoroughly impressed with the guilt of the prisoner. \* \* \* If the case is proven, as the government claim, against the prisoner, it is your duty to convict her, if you find her to be a responsible agent. \* \* You have the rights of the prisoner and the people in your hands. You should hold to the stern rule of the law, but give her the benefit of all reasonable doubts."

The defence asked the Court to charge the jury, that, "if, upon the whole evidence in the case, the jury should find that by reason of insanity or imbecility, or other mental unsoundness, the prisoner was unable to know the nature and quality of the act which she committed, and that such act was morally wrong, it will be their duty to acquit her:" to which the Court said, "That involves the question of insanity and of intelligent capacity. I feel constrained to say to you, (addressing the jury,) that if there is no insanity, there is nothing in the proposition. This woman has lived through a life that has developed a degree of capacity and intellect, showing that she is not of that low standard, unless there is mental disturbance. She would not be irresponsible under the law as an idiot is not responsible, unless she is insane; but I do not mean to rule upon that question, but to leave it to you."

This remark of the Court, was excepted to, and several other exceptions were taken, of only one of which did the Court take particular notice, and for that purpose called the jury back. "I desire to say to you that

an exception has been taken to my charge in reference to a remark I made, in regard to the fit at church. I remarked that, if that was *hysteria*, or what is commonly known as hysterics, it is not evidence of insanity. What I mean is, that *hysteria* is not insanity; but I do not say that that circumstance is no evidence in the case to be taken into the account by you, in considering the question of sanity or insanity. As I was understood to take that question entirely from your consideration, I call you back. I intend to say that *hysteria* is not insanity, *per se*." Other exceptions were made; the usual last bubbles of the subsiding effervescence of counsel, and their customary parting salutes to Court and jury; which disappeared with the occasion, and were not again revived. A verdict of guilty was rendered, and a polling of the jury confirmed it. The usual sentence followed, with ample time allowed for its execution, to appeal to the executive clemency; which was bestowed in the way of commutation of punishment, substituting imprisonment for life instead of death upon the gallows.

The charges of Justice Mason are perfectly clear, forcible, and quite unequivocal statements of the existing criminal law regarding insanity as held in this State. It is obvious from the tenor of these charges that the chief point in the case was the alleged delusion, and, if there was a delusion, the extent of its influence in regard to the criminal act. To justify the jury in an acquittal, it was necessary that they should find not only a delusion, but also that it was powerful enough to incapacitate the culprit from distinguishing between right and wrong as to the homicide, and from knowing the nature of the act. They found neither, or at least they found no delusion of sufficient power: of necessity they must have found the latter, if they found the



former, or have given a different verdict. In determining this, if biased at all by the opinions of the medical experts, they must have disregarded the numerical balance of opinions, and sided with the minority. This circumstance justifies a remark or two.

In this particular case, aside from the bare question of the guilt of the prisoner, for some reason *two* several juries found her legally sane. On the preliminary issue there was substantially the same numerical preponderance of expert testimony inclining in her behalf, that there was on the main issue.

Juries are apt to be affected by the presence and manner of witnesses to facts; by their readiness, their ingenuousness, their capacity of throwing light upon an investigation. They are struck convincingly with the air and intelligence of one witness, with his promptness, clearness, frankness, and candor; they form an unfavorable judgment of another from his embarrassment, his hesitancy, his seeming partiality, his evident foregone conclusions, his being of a side. With regard to witnesses to opinions, *experts*, juries consider that there is as much difference between them, as there is between witnesses to facts, in respect to their capacity of seeing things aright and forming reasonable opinions upon them. They examine their qualifications, they criticize their appearance on the stand, they are affected by the intelligence and frankness of their answers, they guess as nearly as they can respecting the measure and quality of their expertness, they scan their bias both of sympathy and prejudice, and in regard to favorite theories of their science, and give less or more importance to their opinions according to the impressions made by such considerations. Juries know, equally with experts, all the facts on which their opinions are founded; and they cannot but canvass within themselves the proba-



bilities of those opinions being well or ill sustained by the facts. There must be a balance of opinions, as well as a balance of facts; and the weight of opinions, moreover, is not the same thing with a jury as the weight of facts. In respect to *facts*, the jurymen say "numerically, indeed, there are more witnesses on one side than there are on the other, but, morally, we think one of the witnesses on this side worthier of our confidence than all the witnesses on that. The truth, we think, lies with him." In respect to *opinions*, they say, "the opinion of that expert on one side is more in accordance with the facts and better inferred from them, than all the opinions of all the experts on the other, and we will be guided by it." It is after all a conviction of the minds of an honest jury that governs their verdict; and they have instincts or impressions or sentiments of their own which they cannot smother, and which will leaven their conclusions, just as inevitably as a man's physiognomy unconsciously fixes our impression of his character. You cannot poll them to ascertain what particular bit of evidence, or what particular opinion of an expert, principally controls them. It is their conclusion upon the whole mass of evidence, both facts and opinions; some considerations operating upon one mind, and some upon another; and the comparison, compounding, and summing of the whole, including their inward, unanalyzed, secret and instinctive convictions, is their verdict.

In this very case, two different juries, in two different counties, on almost the same testimony, and on the same diversity of opinion of experts, came to precisely the same conclusion on the point of sanity. Such a double conclusion does not of itself make the opinions of the experts any the less valuable as opinions, although evidently, as they are opposite, some must be wrong as applications of science and experience to the

self same facts. But it shows a state of feeling on the part of juries that is on the whole favorable to the administration of penal justice upon human, social, and legal principles. They will not go over the boundary that divides facts from speculations. They are plain, but shrewd men, representing the average degree of human feelings, sense, and judgment; and where any twelve, after a long sifting and weighing of facts and opinions, come to a unanimous sincere conclusion, and particularly where any *two* twelves, on the same facts and sworn opinions, come independently to a like conclusion, it would be presumptuous to impeach its correctness without more light shining upon us than they had. In one case, they pronounced the accused sane enough for a defence; and in the other, sane enough for criminal culpability and punishment: and, in so doing, they virtually rejected the numerical preponderance of expert opinions, in favor of the solitary contradictory opinion, because that satisfied their reason, their consciences, and the law, and the rest did not.

It is not unusual to question the intelligence and integrity of juries. As to their intelligence, there probably never was a period when better educated and informed juries were impanelled than now; and as to their integrity, it is quite equal to the average integrity of the whole people, which is not perhaps very significant praise, when we reflect how corrupt and dishonest all classes, from statesmen downwards, are generally reputed to be. It is not unlikely that in great commercial marts and in communities where wealth abounds, and men's morals are apt to sit loosely, jurymen may be swayed by the same appeals that so successfully swerve men of more pretension and position from their obligations of religion, morality, and good citizenship. It may be too, that in cases of great interest and excite-



ment, the general laxity of morals is so far participated in by jurymen as to make them more approachable than they once were by dishonest parties appealing to their covetousness or their partisan prejudices, or some other weakness to which they are as liable as other men. Juries may sometimes be so packed or sorted, badgered or cajoled, by the arts and management of parties and counsel as to render their verdicts suspicious and wholly unworthy of the name of justice and righteous dealing. But with all these casual or inherent defects, the jury system is probably a more satisfactory one to the people of those countries accustomed to it (and they are the countries where on the whole justice has been administered with more intelligence, wisdom, and satisfaction than in any other,) than any that can be devised to take its place. In general, juries are a fair index of the common sense and feeling of a people. That they should be required to be unanimous is the strongest point of exception; but it may well be doubted whether, after all, it is not the point which makes their conclusions the more satisfactory. Sheer obstinacy and doggedness may sometimes prevent or force a verdict in the face of all testimony and reason; but on the other hand, and quite as often, the conscientious earnestness of one man on a jury, may cause the ultimate triumph of justice and right by the steadiness of his adherence, and the strength of his shrewd convictions. Although there are occasional questions beyond the ordinary intelligence of juries, yet on the whole the subjects submitted to them are such as come home to men's business and bosoms, and are fairly within their grasp; and in criminal cases their error is apt to lie in clemency rather than vindictiveness.

Our question, however, is not whether the juries and the Court were right, but which opinion of the experts



was right? As the Court put it to the jury, on the main issue, it was wholly a question of delusion or no delusion in the legal sense, and that sense is well and authoritatively defined by Justice Mason. Facts, not speculation, must decide it.

As we read the testimony, there was never such a departure from her usual course of conduct on the part of the defendant, as, according to the unanimous definition of insanity given by the medical experts, gives any color to the notion of her being insane. There was no interruption of her usual health, no perceptible disease affecting the brain to cause any accession of insanity, nothing abnormal as compared with her whole life. She was either insane to the same extent from her infancy, or there is no period when she could properly be called so, comparing her with herself. Her conduct in her family and among her family connections, had always one aspect; amongst neighbors and ordinary acquaintance, it had another aspect, but quite as uniform. Her peculiar disposition and qualities to which her family were accustomed, although annoying, mortifying, capricious, disagreeable, and irritating almost to an intolerable degree as her children grew up to maturity and character, were not regarded as insanity; and those which were observed by mere acquaintances were not of a stamp to excite them to any suspicion of insanity, but simply of idiocracy. There was one short period that might indicate a tendency to *melancholia*, but a tendency may never ripen to a disease, not even a hereditary tendency; except always the hereditary tendency to decay and death, which is ever infallible. On the whole, there does not appear to have been any departure, prolonged or otherwise, from herself, caused by disease. What was peculiar in her conduct was the tenor of her whole life. She may possibly have been

crazy, as she certainly was peculiar, all along; but there was no obvious departure from herself, that sure index of insanity.

A departure from one's self, does not, however, mean every change that may occur in the conduct or mode of life. If it did, the wicked forsaking his ways and the unrighteous man his thoughts, or the righteous man lapsing into temptation and vice, and going widely and permanently astray, would fall within the category. It means that a man should at some time, and for some time, perhaps always afterwards, run counter to his natural life-long bent and feelings; fork off sharply and more or less suddenly from the path he has always traveled, and strike an inexplicable tangent to the circle of his usual movements; pursue some errant and cometary track instead of his accustomed orbit; and all without obvious rational purpose or design. If we see a naturally grave man all at once assuming an extreme gayety and frivolity of manner; a noted miser all at once become an equally noted spendthrift; a genial, witty, and hilarious man all at once turn into a demure, sour-visaged, misanthropic one; we may well suspect all these men, judging them by the standard of their own individual life and character, to be insane. They have emphatically departed from themselves; and we fairly infer that disease, manifest or obscure, is at the bottom of it. A man who pursues a pretty constant manner and course from childhood to old age is usually sane. Although he may be a weak man, or a perverse one, or an eccentric one; although he may never have been strongly and particularly sane; yet, relatively to himself, he is as sane as he ever was. It may not be the highest degree of fully-developed stalwart sanity; it may be even less than the medium degree of it, tapering in various shades towards the stolidity of idiocy; but

he is not therefore insane. He may sadly lack self-control, be very dull in his moral sense, very weak in resisting evil, and very devilish in all his propensities; but he is not therefore insane.

Applying such principles to the case in hand, we discover no insanity to begin with, and therefore nothing to found a palliating delusion upon. But allowing that there may have been so much unsoundness, physical weakness, defect, or whatever it might be, as would constitute a sufficient basis for an insane delusion, was there really any such delusion?

What is really true can be no delusion. Illogical deductions, obliquity of mind, obstinate perversion, odd fancies, may distort or invert the truth, and wrap it in a false and deceptive garb, just as a fanciful or excited eye may shape a cloud into a camel or a whale. Jealousy may produce delusions, suspicion may, passionate love often does; (for that matter, according to the poets, we are all crazy once in our lives, "*semel insanivimus omnes*;" ) but they are not necessarily insane delusions, however hurtful, or however pleasant. Othello's frenzy, which is generally attributed to jealousy, although Coleridge very ingeniously doubts it, and which provoked a homicide and indirectly a suicide, was not an insane delusion: it was a real, logical, well-founded belief, upon facts which might have misled the sanest mind, except Iago's who contrived them. The particular facts that impressed both his reason and his imagination were individually true, but were so put together and distorted by artful villainy, "entrapping," as Lamb says, "a noble nature into toils against which no discernment was available," and so suddenly sprung, as to allow a quick, passionate, and ardent sensibility no opportunity to scrutinize and detect the real weakness of the fatal meshes which snared him. He was imposed



on, and in that sense deluded; overpowered by a conviction of connubial treachery, which wrought him to a frenzy of passion; but there was no delusion of insanity.

In this case which we are considering, the delusion, if any, confessedly sprung out of a jealousy or a suspicion of the mother that her daughters were aiming to displace her in the management of her household; that they were obviously acquiring a superiority over her. Notwithstanding her low and feeble intellect, and perhaps the more sensitively on that very account, she was still conscious of a growing disparity unfavorable to herself. It was galling to her pride, and irritating to her temper, and stimulated her peevish and revengeful spirit. Although it is difficult for well regulated and ordinarily right-feeling minds to conceive that such sentiments should ever in real life rise to so desperate a pitch as the deliberate homicide of two daughters; yet history and criminal records are too thick with like instances of the tremendous and awful force of evil and indulged passions to allow us to doubt the possibility. All the Jezebels, the Messalinas, the Gonerils, and the Lady Macbeths are not extinct. Strong as the instinct of maternity naturally is, we know that in many countries, if not quite obliterated, it is constantly and remorselessly violated; and even in this country, so frequently as to diminish our wonder if it should reach to the untimely removal of adult offspring. It is wickedness, more than insanity, that prompts to foeticide and infanticide; and the same diabolic spirit that suggests these requires very little maturing to efface natural affection and to dispatch children of a larger growth. The son of Sirach who could say, "Forego not a wise and good woman, for her grace is above gold," also said, "All wickedness is but little compared to the wickedness of a woman." It has no equal for intensity,

especially when the meaner passions are aroused; and therefore Shakspeare puts it into the mouth of Albany to say to Goneril,

“Proper deformity seems not in the fiend  
So horrid as in woman;”

what we should tolerate in a devil as a natural characteristic, is more horridly devilish in a woman and a mother. “Hell hath no fury like a woman scorned;” or like an envious and malignant one, as described by Ovid, (in Addison’s version,)

“Who never smiles but when the wretched weep;  
Nor lulls her malice with a moment’s sleep;  
Restless in spite; while watchful to destroy,  
She pines and sickens at another’s joy.”

All this is within the compass of human depravity; and wretched insanity should not be compelled to father such monstrousness prepense, begot of the devil.

In letters of Paul to his Roman brethren and to his young friend Timothy, still extant, and good strong reading, he describes a class of cases familiar in his day, under a nomenclature more significant and characteristic, and far more sonorous, than the modern “barbarous vocables,” *kleptomania*, *pyromania*, *oinomania*, *pseudonomania*, *aidoiomania*, *oikeiomania*, *fanatico-mania*, *politico-mania*, and the like, which define and cover acts and habits that we are permitting to seek the shelter of insanity for protection. In one or other of the subdivisions of Paul’s comprehensive class, and perhaps in two or more of them, a judge, or a divine, or a moralist of a hundred years ago would likely have ranked this case. It would fit in well among the *Astorgoi*,—those without natural affection,—or the *Phthoneroi*,—those full of envy or suspicion,—or the *Asunetoi*,—those without understanding,—or the *Anel-*



*eēmonai*,—those incapable of mercy; all subdivisions or species of the great genus that Paul does not hesitate to stamp as *Reprobate Minds*; which is a mild way, perhaps, of calling them insane in Bible Greek. His appellatives have a scriptural force and meaning in them which is more level to the comprehension of juries than the palliatives of modern invention; for juries not only have a strong touch of natural religion, but a tincture of St. Paul's sort too, and are apt to think there is some crime left outside of insanity, though all wickedness be folly, which is next of kin to it. The great Christian moralist, who was brought up moreover at the feet of that distinguished lawyer Gamaliel, does not incline to consider the cases which he enumerates, with much leniency, whatever color they may be varnished with, but denounces them with sharpness, as no better than heathen vices of the most horrible stamp. They are not in themselves indictable at common law, and can only be handled by the penal code when they come to a head in robberies, homicides, or other violence; which in these latitudinarian and sympathetic days, we attribute, with the kindest and most reverent intentions, to a visitation of God, instead of the instigation of the devil; who, before *oikeiomania* and the like were invented or discovered, was uncharitably presumed to be the putative, if not the real, father of them all. We have dropped the devil and his seducing and moving instigations out of our indictments, and admit such proof as ingenuity can devise of the visitation of God for both the provocative and the palliative of the most shocking crimes and enormities. The humanity which prompts this is no doubt very kind and pleasing to those for whom it is indulged, and to those who indulge it; but it is very baneful to public justice and penal laws: it is a humanity which



sacrifices social protection and social order to individual indulgence; to “loose life” and “unruly passions,” more than to “diseases pale.” We strip justice of her vital attribute, severity; and indulge mercy in her fatal weakness, impunity. It is thus, that, in the nervous language of South, “we persuade a man that he may cheat and lie, steal, murder and rebel, *by way of infirmity*, without any danger of damnation”—“a direct manuduction to all kind of sin.”

A tendency to *melancholia* was said to have manifested itself at one time in the culprit; and *melancholia* is such a genuine phase of insanity, as commands pity and indulgence. There is not commonly much that is impulsive or violent in its manifestations; but rather, except in extreme cases, the reverse. It prompts oftener to suicide than to homicide. But it is odd that under its more common name of hypochondria, (pure and simple *hypo*,) it should always have been a common theme for petty sarcasms and jests, more than for grave and tender commiseration; as we laugh at hysterics, but put on a sober face with *hysteria*. But hypochondria would be a poor defence against a criminal accusation. Perhaps it is because so many have it, that it would nullify the whole criminal code and all criminal punishment. Lord Byron called it an “impeachment of a liver complaint.” It is now, under a more intense name, sought to be made an impeachment of the mind and will; and is held by some to incapacitate one from committing any indictable, or at least any punishable, wickedness. Hypochondria tends to melancholia, and is in fact an incipient or nascent stage of it, but probably in nine cases out of ten does not reach to the height of insanity. At all events, a *tendency* to melancholia is not of more import than a hereditary tendency to insanity generally. It may run along a

whole life without becoming a disease affecting the brain, or excusing anything more culpable than a breach of good manners, an irritable temper, or a general disagreeableness of conduct. That sort of melancholia the culprit may have had, as thousands have it, without affecting her responsibility legally, and perhaps not very much morally.

Humanity is daily invoked to confound legal and moral considerations in criminal cases, and to undermine the penal code by admitting the opinions of speculatists to sway the judgment of juries. Particularly in highly penal cases, there is a persistent effort to encroach upon and modify the established rules of law applicable to them as narrow and constricted, and unworthy of a humane and generous age. This spirit of humanity would make courts of criminal law forums of conscience and casuistry, governed by some divine insight into human motives and the comparative power of every man over his will and passions, to be tested by the application of some speculative science or theory. Whenever any such science shall be so perfected as to unravel the mysteries of the workings of men's minds and impulses, in health and disease, by certain infallible deductions, it will be time to modify legal rules to accord with it. In the meantime we must reflect that these rules are of human invention and experience, devised for common use and application, and for the vast majority of men. They are founded on a broad, general principle that there is a great deal of bad conduct, growing out of bad passions and habits, that requires restraint and punishment. They go upon the general sense that sanity is the usual and typical state of man, and that insanity is an unusual, exceptional, and unhealthy state, suitable to be watched and guarded, but not to be punished. Therefore the penal



law excludes insanity: every insane person is exempt from its operation. That is a sure means of escape when there is no other. Of course every culprit will seek such an open door, and ingenuity will be taxed to its power, as we see daily, to secure his flight through it. Modern improvements have somewhat to do with this. It was formerly less dreadful to suffer the punishment inflicted upon crime than the horrid humanity of a mad house, or the chains and strait jackets of private confinement; and a conviction for guilt was more tolerable than an acquittal for insanity; the prison or the gallows was a preferable alternative to the notorious mal-treatment of madness. But when the asylums made confinement somewhat more agreeable, with less disgrace, than the prisons, then the plea of insanity, which was a respectable toning down of the ferocious old name of madness, became popular in a double aspect; it both saved and provided for the criminal, and pleased his friends, who at a stroke secured his escape from infamy and punishment, and themselves and society from his dangerous association. Hence, every odd look, every downcast and weeping eye, (and "what," says Ecclesiasticus, "is created more wicked than an eye? therefore it weepeth upon every occasion,") every silly laugh, every eccentricity of conduct, every hypochondriac turn, every physical weakness, every heat of passion, every natural frenzy of excitement, every impulse to evil act, every defect of self-control, is twisted and tortured, by sympathising friendship or by empirical science, into some significant index of insanity. This will never do. It is contrary to reason, to justice, to social protection, to all human experience, and to all divine law, however conformable it may be to some fanciful and super-humane speculations that have the air of science without the truth of



it. There must be a stanch safeguard somewhere; and the law has set it up as nearly right for all practical purposes and for a general rule of discrimination between crime and innocence, as human wisdom is likely to hit. If a man knows what he is about when he is doing a thing, as to the right and the wrong of it, and its consequences, he is legally responsible for what he does. If he does not know, he is not legally responsible; he is insane as to that act. That act is what the tribunal is to judge. It was his act; it was wrong; and he knew it at the moment; therefore he is guilty of it, and the law has affixed a punishment for such guilt. If there be error in the finding, or cause for remitting or moderating the penalty, the same law has provided against its own errors and its own severity. It has provided a pardoning power which may either cancel or modify the punishment. This is the best that human law can safely and wisely do. It is a candid acknowledgment of its own imperfection and lack of omniscience, and the best provision it can make for its occasional ill consequences. If his conscience acquits a man of guilt, and the sovereign human clemency is not satisfied of his innocence, Omniscience will weigh his conduct in a more delicate scale than He has intrusted to clumsy human wisdom, and will hold him acquitted at "the great day of examination of the whole world." This may be a poor present consolation for undeserved punishment; but many a good man has had to be content with it; and all must, so long as human affairs are directly conducted by human beings.

For neither men, nor tribunals composed of men, are infallible. No human law, and no human application of divine law, is, or ever will be, perfect. The prevailing tendency of this age is, on some revived old theory which retains just spark enough among the ashes of a

former explosion of it to be raised into a fresh scintillation, to attack, openly or treacherously, the tried safeguards of society, law, philosophy, and religion, and open both the world of action, and the world of mind, as a free common for all sorts of vagaries to "browse and batten in." We are losing veneration for the ancient landmarks; indeed we do not seem to know where they are, or were, and are setting up new ones, as if none had ever existed, or all were buried in ruins. We are too busy with current affairs of wealth-getting or partisanship to pay attention to great principles, unless they be new, or new varnished; and the old are rusting out of mind. A thousand years' test of them avails nothing before a hurricane of vague theories and oppositions of science, that the next moment subsides, leaving a waste of tremendous ruin to be contemplated with amazement, and to be reduced to order by the toils and experience of another thousand years.

There is a strong proneness to forget, in the conflict of new philosophies and the effort to apply metaphysics in the regulation of human affairs, that accountability under human laws and accountability under divine laws are different things and gauged by different standards. What Lord Brougham, who added the acuteness of a metaphysician to the wisdom of a legislator, and had the mastery to keep his faculties clear each way, once said in the House of Lords, is so pertinent to this point, and otherwise so applicable to this particular case according to our apprehension of it, that we cannot hesitate to quote his high authority. "With respect to the point of a person being an accountable being, that is an accountable being to the law of the land, a great confusion had pervaded the minds of some persons whom he was indisposed to call reasoners, who considered accountability in its moral sense as mixing itself

up with the only accountableness with which they [the House of Lords] as human legislators had to do, or of which they could take cognizance. He could conceive of the case of a human being of a weakly constituted mind, who might by long brooding over real or fancied wrongs, work up so perverted a feeling of hatred against an individual that danger might occur. He might not be deluded as to the actual existence of injuries he had received, but he might grievously and grossly exaggerate them, and they might so operate upon a weakly framed mind and intellect as to produce crime. He could conceive that the Maker of that man, in His infinite mercy, having regard to the object of his creation, might deem him not an object for punishment. But that man was accountable to human tribunals in a totally different sense. Man punished crime for the purpose of practically deterring others from offending by committing a repetition of the like act. It was in that sense only that he had anything to do with the doctrine of accountable and not accountable. He could conceive a person whom the Deity might not deem accountable, but who might be perfectly accountable to human laws."

The part of metaphysical science which approaches closest to the confines of physical science is psychology. It is the

"—— nearest coast of darkness

"Bordering on light ;"

and so far as experience affords a reasonable demonstration of the reciprocal action of the body and the mind, and shows an intimate and blended interaction marked by such indicants and contra-indicants as point out satisfactorily to the cautious judgment of a scrutinizing medical expert what treatment is due to cases of that



compound character, so far it may be within the purview of physical science, and as such may be the subject of legal consideration. So much of the philosophy of the mind as recognizes distinctions in its faculties which are every where and commonly allowed, and enter into and mingle with the staple of human knowledge and experience, is so ingrafted or imbedded in physical science as to be in current use and allowance for a part of it. Thus we recognize, without a cavil, the distinctions of will, memory, association, and imagination, which we know by our own consciousness and by experience not only vary in different minds, but are positively affected or disturbed or obliterated by certain ailments or lesions of the body. If a medical observer tells us that it is the constant unquestioned experience of his science that a particular disease deranges or prostrates the functions of the mind, or some of them, we believe that as readily as we believe that death prostrates them all. It is a phenomenon that involves no more metaphysics than the elemental principle that there is a body and a mind somehow mysteriously connected. If he tells us that his science shows that a disease of the liver depresses the mind; or a nervous disorder disturbs or confuses it as an usual accompaniment or result; or a lesion of the brain produces, according to the form and extent of it, more or less imbecility of one, or the other, or all of the mental faculties, and in every variety of gradation up to a complete loss of them; all this we believe on his testimony as an experienced scientific man. We see all these results in our own experience and observation, and his scientific solution of the cause of them we admit, because he and a long list of prior observers have found that such results have constantly followed from such causes, and have never, or not often, or not

so invariably, followed from other physical conditions. All this is legitimate. But when we go farther we get into a region of clouds and darkness. We get, to be sure, into a field where many of the acutest human intellects have gravely disported, and displayed the most remarkable subtlety of thought and reasoning; into the region of pure mind considered abstractedly from physical objects. Thither, as one of the experts in this case replied to the artful inquisitiveness of counsel, designed doubtless to entrap him among the pitfalls into which some of the wariest experts have stumbled, thither the law "cannot follow." It is subtile in distinctions of its own, but it cannot emulate the subtleness of metaphysical disputation. There is a point where the two must part company, and set up a palpable division fence which neither shall overleap; the law, with its proven facts, on one side; speculation, with its mists and confusion, on the other. It is just where fact terminates, and speculation begins. Medical science edges somewhat on the border, but it is deduced from observed facts and physical phenomena, and is a part of the common law. So is mathematical, so is astronomical, so is nautical, so is all physical science. Experts in such are good witnesses in their respective departments as to scientific deductions from conceded facts. *Cuique suâ in arte credendum est.* But what court ever called a witness to enlighten it with a metaphysical opinion? There are no allowed experts in non-physical science. Impanel a jury of the philosophers in that class, and let there be on it any twelve of them from Plato down to Sir William Hamilton, and they would not agree before doomsday on such questions within their field as might be propounded by a sharp lawyer on a nice point of insanity. Such, in the language of

another expert witness, are questions that “would puzzle the Solons of any age.” The law does, and medical experts should, steer wide of that

“———— boggy *Syrtis*, neither sea  
Nor good dry land,”

lest

“Treading the crude consistence, half on foot  
Half flying,”

they be “quencht” in it. We would not disparage metaphysicians, although it puzzled Cowley, with all his power of obscure conceits, to know “whether metaphysic be anything or no.” It is one of the finest and noblest exercises of the human mind to study itself; but it is one of the mysteries that God has reserved from the full knowledge of man; from more than the dimmest rays of it; perhaps for the purpose of sharpening his faculties to some ultimate useful end by whetting them upon each other to that keen edge which sometimes splits hairs so finely that the most microscopic intellect cannot distinguish which ninth part of one it cavils on. Here, we say, the law common, statute, or even the revealed law divine, does not follow. The divine law was first promulged from the thick darkness where God was, with awful thunderous shadows resting upon Sinai to conceal his brightness, as if to intimate that beyond God’s absolute revelation nothing was to be penetrated by human insight. Into the thin, vapory skirts of that dense darkness we may somewhat penetrate, but all that we discover is thin and vapory too; and it is safer to be blinded by such a designed providential obscurity, than by an excess of that “unapproached” light that would more painfully and effectually quench our mortal gaze.

If there was really in this case, as the defendant



insisted there was, and as all the evidence to that point shows, a state of ill-feeling between her and her children, particularly her daughters; if they were really, as was very likely without any evil intent on their part, acquiring a domestic or social superiority over her, by their better education, manners and ambition to shine; and if she really, and as was quite natural for one of her narrow views, malignant mind, and spiteful temper, magnified these circumstances into something aggravating and unendurable; all this might be,—and that without any particular strain on human credulity,—without any insane delusion. It was the truth that troubled her. There might have been misconstruction of motives, exaggeration of little facts, misjudgment of feelings, and wrong estimate of conduct; but there was no delusion more than would excuse most deliberate crimes. A stronger minded, better trained, and more affectionate mother would have seen the case in a less distorted light, and would not have construed it into a petit treason punishable with death. Strong delusion may make people believe a *lie*; so St. Paul intimates, and so we see it every day; but a belief in the truth is no delusion. The experts who judged that here was a delusion of insanity, also conceded the fact of the household troubles that excited the mother and annoyed the daughters, as proven;—that such things really existed, at least to such an extent as to disturb a weak, nervous, and suspicious woman. If they believed the *fact*, how could they maintain the *opinion*? The jury were more shrewd and consistent, and finding the fact without the delusion, convicted the culprit of a murder, by a most righteous and just verdict according to law; leaving it to the Executive clemency, (not burdened by their oath to make a true deliverance,) to provide a test for its accuracy by commuting the punishment. They meant

that death or imprisonment should deprive an inhuman mother of the power of poisoning any more daughters, and that her fate should be an example to others that there is accountability to man as well as accountability to God. Two years of prison life have not developed insanity enough to impeach their judgment, or stagger our conclusions.

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## PROSPECTIVE PROVISION FOR THE INSANE.\*

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Of all the subjects legitimately belonging to the specialty of psychiatry, or immediately connected with it, no one has, for the last few years, occupied a more prominent position in the United States, or called forth a larger number of words, oral, written and printed, than the proper provision for the custody, care and cure of the insane.

In venturing to contribute another rivulet to this verbal Niagara, I do not profess to be able to say anything new; and my only attempted excuse shall be that I speak to an association which, whether it be regarded collectively or, with some exceptions, individually, does not stand in the bed of the stream of that which has been written, but, dwelling upon the plains of the bordering shores, has caught only the dewy droppings of the mist ascending from the torrent. Let us hope that those dews have been refreshing, and that some eye, more fortunate than others, has detected a rainbow extending its arc of beauty, of hope, and of promise above the somewhat turbulent waters.

\*Read, by request, before the Massachusetts Medical Society, at the anniversary meeting, in Boston, June 2, 1868.



In this country during the quarter of a century next preceding the year 1855, or thereabouts, it appeared to be universally recognized as, in practice, a principle, and in theory, a postulate having all the self-evidence and the force of an axiom, that, for the proper treatment of the insane, the first measure is to collect them in hospitals adequately supplied with all the munitions which can contribute to the restoration of mental soundness. This principle was acted upon, and hospitals multiplied apace, until the enterprize received a check by the breaking out of the recent political rebellion. The exigencies of the civil war were such that our people have been, still are, and for a long time must continue to be heavily burdened by taxes. For this, and perhaps for other reasons, the formerly admitted principle has lost its universal hold upon the faith of the people, and has been questioned in more than one respect.

Various propositions of change have been made, most of them based upon limited practical operations in Europe. Meanwhile, the number of the insane in the United States unprovided with hospital accommodations has largely increased. Hence, at this moment, while there are probably from thirty thousand to thirty-five thousand insane not in the hospitals, the subject of their proper treatment has become not merely a question to be answered, or a proposition to be demonstrated, but, rather a problem to be solved.

The suggested modifications of what was thought to be the measurably established plan of hospitals for all, may be included under the following heads.

1. Hospitals for the curable alone.
2. Asylums for the incurable.
3. Colonies, or the Gheelois plan.
4. Central hospitals, each with neighboring cottages.
5. Family treatment.



The first two propositions above mentioned involve the important question of separation of the insane according as their disease is chronic or recent, or rather, as it is supposed to be curable or incurable. On the one hand it has been asserted that this separation may be made if not with actual benefit to both classes, at least with no detriment to either; while, on the other, it has been maintained that it is injurious to both. Dante has been quoted and misquoted, interpreted and misinterpreted, translated correctly and translated incorrectly, for the purpose of depicting the horrors of an asylum for incurables. But there is still room for the opinion that the door superposed by that inscription of awful signification and solemn warning,

“*Lasciate ogni speranza,*” &c.,

as described in “*The Inferno,*” was *not* the door of an asylum for the chronic insane. Yet as Dante is dead, and as he died and left no further sign upon the subject, and as Longfellow, in his translation, has no notes or comments thereupon, the correctness of this opinion cannot well be proved.

It has always appeared to me that the greatest objection to receptacles for the incurable, the objection, indeed, paramount not only to all others, but to all arguments in favor of such receptacles, is their liability to degeneration, neglect, and, as perhaps a necessary consequence, the abuse of the inmates. Pecuniary economy is not merely the point of departure, but, as it were, the very germ itself of their origin. If perfect hospitals, fully officered and completely equipped, cost no more than those asylums, no man would think of suggesting the construction of the latter, and the separation of the insane into the two classes mentioned. Based upon the principle of frugal if not parsimonious

expenditure, they cannot command the services, for officers, of men of superior qualifications, and, even if they could, the mass of incurable disorder within their walls would present no sufficient stimulus to retain such men. The same influences would have a similar effect upon the boards of trustees or managers, and gradually, in the nature of things, interest, if it ever existed, would flag, and neglect and abuse must almost necessarily follow. The history of such receptacles in Europe generally confirms the truth of this position.

Nevertheless it is not difficult to imagine an asylum for incurables so excellent that the position and condition of its inmates could nowhere be improved. Superintended by a man of special talent, taste and tact, of untiring industry and absolute devotion to his calling, and whose ambition and benevolence would both be sufficiently satisfied in making the mass of afflicted humanity under his charge as comfortable as circumstances would permit, an establishment of this kind might be made to meet all demanded requirements. But the number of such men whose services could be secured is small, and asylums nearly approximating such perfection must ever be but very rare exceptions. That such have existed, at least in one instance, we have the authority of one of the profoundest thinkers and one of the purest spirits among the German psychologists. I allude to Dr. Zeller, of the hospital at Winnenden, in Wurtemberg, whose remarks upon the asylum directed by Dr. Hayner, at Colditz, justify the assumption of this high position for that institution.

Perhaps it might truly be said of establishments for the insane, whether hospitals or asylums, as Pope says of governments:—

“Whate’er is best administered is best.”



While it requires no great brilliancy of fancy to conceive an excellent asylum for incurables, it is equally easy to imagine a hospital for curables the condition of the inmates of which could hardly be made worse. At any rate, the condition of the inmates of a well managed asylum is better than it would be in a badly managed hospital. But in the prosecution of a scheme so broadly comprehensive as the proper guardianship and treatment of the insane, it is necessary to act upon general rules and not upon exceptions. In the endeavor to select a method of custody, care and cure, we must attempt to fix upon one the conditions of which are such as will be the most likely to *insure* effective management.

3. The only existing example of the Colony, or that which has been termed the "free air plan," is that of the commune of Gheel, in Belgium, where many hundreds of mental aliens are placed as boarders, from one to four or five in a family, in the houses of both citizens and peasants. This great receptacle for the insane has existed for centuries, but has not been brought conspicuously into notice until within the last few years. The legend of its foundation by St. Dymphna, a beautiful young woman who, in the seventh century, fled from the presence and the home of an incestuous father, in Ireland, and here devoted her life to the care of the insane, throws an air of romance about this unique commune, the effect of which must be guarded against in the endeavor fairly to estimate the merits or the demerits of the place as illustrative of a peculiar method of provision for the insane.

I passed two days in Gheel, in 1849, and drew most of my information respecting the method from Dr. Parigot and Mr. Vygen, the *Commissaire de Police*. They kindly conducted me to many houses, both in the



village and among the peasant farmers, where insane persons were at board. My impressions of the place were not favorable, even for the class of the insane who by law are alone permitted to be received—the chronic, the incurable and the quiet—and much less so for other classes—the recently attacked, the curable, and the highly excited. Since that time, the objectionable features have been somewhat modified and diminished, by the introduction of the element of another method, in the erection of a central building which, to all intents and purposes, is an asylum or a hospital. Hence, so far as Gheel has been improved, the improvement is due not to the method of colonization, or segregation, but to the method of congregation and concentration.

Aside from agriculture, the care of the insane is perhaps the chief financial interest of Gheel, and, like all other pecuniary interests, it is managed with a primary view toward the profits. A system of brokerage has been established in the business, and the men engaged in this, like the “middle men” in all departments of trade and of commerce, hold, to a very great extent, the reins of power. The financial interest is thus paramount to the philanthropic interest; and these men will never permit benevolence to interfere with their pecuniary welfare, any more than the shoemakers of Lynn will permit the world to be supplied with shoes—were such a scheme supposable—manufactured gratuitously by a benevolent association.

Of the nearly seventy hospitals, asylums, and other special receptacles, counting Gheel as but *one*, which it has fallen to my lot to visit, there are but two at which I saw insane persons in any way personally restrained by heavy chains. These are Gheel, and the Timarhané, at Constantinople. At the latter a man was chained by

the neck to the wall. At the former the chains were in the form of fetters; and, in one instance, the large iron rings encircling the ankles had abraded nearly all the skin beneath them and rested upon a raw and bleeding surface. The man wearing them started up from his grassy bed beneath a hedge; as, upon turning a corner, I suddenly and unexpectedly came near him, when rambling from the village toward the church of St. Dympna. Whether the good saint, during her mortal life, approved of this method of security from elopement, neither history nor legendary lore can tell. But, so far as these cases illustrate that which has been denominated the "free air plan," they are open to the comment that the insane can anywhere be permitted to have free air by taking away from them free legs.

At one of the houses, a patient slept in a place, which, wherever situated in the building, no New England farmer or mechanic would think fit for the lodging of any of his household; other than the cat or the dog; and, as it was, it was too far out of the way even to be thought of for that purpose. It was a low, three-cornered opening in the attic, formed by the floor, the slanting roof and an adjacent room. Ascending a ladder to reach it, the patient was obliged to crawl into it upon all fours, and there he found his bed of straw. The question naturally arises,—If, in the comparatively small number of houses that I visited, there was *one* such dormitory, how many were there in the whole commune?

I do not doubt that a large proportion of the insane at Gheel are treated kindly; and Dr. Parigot, who knows the place more thoroughly than any other person whose writings upon it are familiar to Americans, attests to the benevolence and the beneficence which are there manifested. But, while admitting and acknow-



ledging this, it cannot reasonably be denied that the primary and principal motive of the persons who receive the insane into their families is the prospect of pecuniary profit. And as the Gheelois are probably like other people, the tendency will be to make the most of their opportunity. Taking this in connection with the fact of the existence of the class of brokers, as above mentioned, it may readily be perceived that the Gheelois method, as it there exists, has too strong a resemblance to the old practice of setting up at auction the board of the town's poor, and selling it to the lowest bidder.

But a very few years before my visit, the chief officer of Gheel—the burgomaster—had been waylaid and killed by an insane man; and, at some former time, the life of a child had been taken by another patient.

These acts of homicidal violence are not mentioned in special condemnation of the plan of colonization. The history of even the best class of hospitals is but too often checkered by similar events; and, in them, patients have killed not fellow patients alone, but attendants, and in one instance, in Germany, the superintendent. It is desired merely to show that the method at Gheel does not *prevent* those fatal occurrences.

From what has been said it is evident that the whole picture of Gheel does not consist in a fanciful foreground of the legend of St. Dymphna. In my view the most important objection to it, as a method, is, that there is greater liability to the abuse of patients than there is in hospitals. The more the insane are segregated and scattered, the less directly can they be subjected to supervisory inspection; while, on the other hand, the number of caretakers is increased, and consequently the probability of abuse correspondingly augmented; for among ten persons, anywhere, the chances of a cruel master are twice as great as among five persons.



But perhaps the most decisive of all arguments in regard to the method in question, is the fact that, although Gheel, as a colony of the insane, has existed for a time "whereof the memory of man runneth not to the contrary," it has never been copied. Situated at a point almost central between the observing French, the philosophical Germans, the religious and cautious Scotch, and the practical English, it has remained, in effect, almost as unnoticed as if it were unknown, throughout the three-quarters of a century during which each of those peoples has been engaged in establishing, enlarging, and improving the hospital method of treatment. Is it possible that the physicians and the philanthropists of all those countries have been thus long groping in the dark, and that not until so late a period has the sun-light of truth fallen upon them as reflected from the humble church of St. Dympna?

4. An institution occupying a middle position between the two extremes—a hospital proper and the Gheelois method—has commanded the approbation of a not inconsiderable number of psychologists and humanitarians, and already some establishments conforming, to a greater or less extent, to this idea, are in operation. The cottages disconnected from the main building of the McLean Asylum, and furnishing a suite of rooms for each inmate, illustrate the first step of departure from the hospital proper in the direction of the Colony. But perhaps one of the best illustrations of the kind of institution in question, is the asylum and so called colony of FitzJames, at Clermont, in France. This is a private establishment, owned and conducted by the brothers Labitte. Upon, or connected with, a farm of five hundred acres, are three large buildings, accommodating about twelve hundred patients. One of the

buildings is a hospital, or asylum, occupied by those who, for any reason, require restraint. The second is devoted to boarders for whom especial restraint is unnecessary; and the third, to the similar class of paupers. These buildings are furnished each according to its necessities for treatment, and the social position or the pecuniary means of its inmates. There are commodious out-houses, workshops of various kinds, and diversified means and facilities for the amusement, entertainment, recreation, and employment of the patients.

So far as manual labor is concerned, this is, to a great extent, an independent and self-sustaining institution. Domestic industry prevents the necessity of much foreign aid. The extensive farm is cultivated chiefly by the patients, and the grain is ground upon the premises. Regarding the place with a special view to treatment, we find that, in its daily operations, "There is," to use the language of Dr. John E. Tyler, who recently visited it, "a constant interchange going on between the departments. If a person becomes restless, or boisterous, or unmanageable, in the colony, he is taken to the asylum. When one in the asylum becomes quiet and can be entrusted with his own liberty, and is capable of labor, he is at once transferred to the colony; and this is felt to be an incentive to self control by the inmates of the asylum."

5. It has been proposed to place the quiet incurable insane in families which, wherever situated, will receive them. This plan has been pursued to some extent in Scotland and in France. It differs from that at Gheel, principally in the wider separation of the insane. The greatest objections to it are: first, that the wider separation renders inspection by superior authorities more difficult, and consequently less efficient; and, secondly,



that the primary and strongest motive on the part of those who receive the insane, will be pecuniary recompense. Doubtless a large part of those who might thus be distributed would fall into hands moved to gentle usage by not unloving hearts. But when we remember the very prevalent distrust, nay, even *fear* of the insane, it does not appear probable that philanthropy alone, or even to any very considerable extent, will induce people to receive them into their households. At all events, progress in that direction must be slow.

Having thus very imperfectly noticed the several propositions, I proceed briefly to indicate my views in regard to the most appropriate disposition of the afflicted class whose welfare is under consideration. And here it may be premised, that the insane are not, like the victims of Procrustes, to be all brought to the requirements or conditions of one place or position. Hence the different classes of them may be cared for in several ways.

1. Some of the quiet incurables are as well provided for in their own homes as they could be elsewhere—and there they can remain.

2. There are not a few, who, having no homes of their own, or who, for some special reason, cannot well be cared for at their homes, but who do not really require the seclusion and the restraints of a hospital. These might well be placed as boarders in country families. Indeed, I think that some who are now in the hospitals might be so placed without danger to other persons, with no detriment to themselves, and, in some instances, with an augmentation of their content.

The propriety of this disposition of them is, of course, dependent upon the assumption of requisite qualifications and conditions of the families with which they may be domiciled, and that all for whom this pro-



vision is made shall be under the supervision of men delegated to the duty by the government of the commonwealth.

3. But, after the disposal of the two classes above-mentioned, it will still, as I believe, be found that the great mass of the insane can best be provided for at institutions where they will be so congregated that the custody, care and supervision of them will be comparatively easy. There must be hospitals for the curable, if for no others; while, for the incurable, there must be either hospitals, asylums, colonies, or institutions containing some of the characteristics of the hospital and the colony.

But the method of colonization, as practiced at Gheel, even were it commendable, is probably impossible in this country. The active and enterprising Yankees, with bridle upon steam and a halter upon lightning, yet still whistling and chafing for greater speed, are not the quiet Flemish, plodding through plains of sand in the horse-cart ruts of ages. Whither shall we go, in any of the New England States, to find the township of ten thousand inhabitants who will harbor from a thousand to fifteen hundred insane persons, feed, lodge, clothe, protect and otherwise care for them, not, indeed, for fifty cents each, per week, as at Gheel, but even for three dollars and fifty cents, the sum paid by the commonwealth of Massachusetts for this provision for its beneficiaries in the State hospitals? The insane colony, here, I believe to be, for the present, essentially an impracticability, and hence discard it from further notice.

At this point, if you will pardon me for quoting from myself, I desire to introduce an opinion published in 1852, after an examination of German hospitals, and a perusal of much that had been written in the Germanic countries, upon the question of separation of the

incurable from the curable insane. That opinion is as follows: "It appears to me that the true method to be pursued in regard to lunatic asylums, is this: let no institution have more than two hundred patients, and let all receive both curables and incurables, in the natural proportion in which applications are made for the admission of the two classes, from the respective districts in which these institutions are located."

The only modification to this plan which I would now make, is, an extension of the limits of the number of patients to two hundred and fifty; and this is permissible only because of the large proportion of incurables among the existing insane.

So far as relates to character and extent, hospitals of this description are model institutions. The plan appears to me the best of all plans. In no other way can the insane be so well and so effectively treated, their protection secured, their comfort assured, their general welfare promoted, their contentment approximated, and the greatest probability of their restoration attained. The superintendent can obtain a sufficiently thorough knowledge of the case of every patient. Inspection by him may be frequent. All the details of treatment, both medical and moral, may be known to him, and hence the greatest efficiency secured. All the labor of which the patients are capable may be obtained as easily as under any other plan, and a large part of it may be devoted to the care of the curables, the sick, and the excited, thus materially diminishing the necessity for paid employés.

Any desertion of this plan of treating the insane appears to me to be a desertion of the principles of true Christian philanthropy and beneficence. There can be but one excuse for such abandonment, and that is, pecuniary expense, the rude touchstone to the severe



test of which all schemes of benevolence and of human improvement are brought. Under one roof, and with one household organization, five hundred persons can be supported at a cheaper rate, *per capita*, than two hundred and fifty persons;—and hence five hundred it must be. This is the first departure from the true method, and this departure has already very generally been made in this country. “It is the first step that costs.” The next step in the same direction naturally follows. The chronic and the incurable insane *can* be maintained at a less expense than is required for the best treatment of curables. Hence the two classes must be separated. So saith cold calculation.

The brief limit of time forbids any further development of the objections to separate establishments for incurables, further than to ask if we may not learn something from the Germans, who, after the subject had been subjected to exhaustive discussion, came to the practical result of constructing nearly all of their largest and most recently erected institutions, upon the plan of treatment of both classes under one roof, although the two are in separate departments.

Believing the true colony not only open to serious objections but as infeasible at present; regarding the institution of distinct asylums for the incurable as detrimental to the interests of the insane, for reasons already given, as well as for the very great doubt that the two classes can be properly cared for more cheaply separate than together; recognizing, with sincere regret, the fact that the plan of small hospitals has been practically relinquished, and yielding to that result, only because the power which produced it is so strong as to bid defiance to any available resistance, I approve of large hospitals, those which accommodate from three hundred to five hundred patients, as the best practicable plan for



the care of all the insane who must be congregated. This plan I would pursue so long as the number of incurables is not very largely disproportionate to that of curables. When, however, the former greatly preponderate in numbers over the latter, rather than widely to separate the two classes I would adopt that style of institution which unites the characteristics of both the hospital and the colony. The principal building should be a hospital commensurate in its perfection with the knowledge of the time. The other buildings for patients should not be far remote; neither should they be so large as those at Clermont. The dimensions, the internal arrangement, and the furniture should be adapted, in each instance, to the condition and the circumstances of the patients for whom the edifice is intended.

The facilities for a transfer of patients from one building to another, according to their variations of condition, are of very great importance as a recommendation of this form of institution. This advantage alone should forever forbid the thought of isolated asylums for the incurable.

If, then, it should become necessary for the commonwealth of Massachusetts to enlarge her provisions for the insane, the object may easily be attained—and the experiment is not unworthy of a trial—by the erection of minor buildings upon the farm of one of the existing State hospitals.

## ADMISSION TO HOSPITALS FOR THE INSANE.

Since the general establishment of hospitals for the insane as a necessary and chief link in the glorious chain of Christian charities that characterize modern civilization, and the prevalence of a more critical observation and study of the wants and treatment of the insane, developing their condition as purely one of disease more or less tractable by human skill, many old provisions of law and usages, well enough adapted, perhaps, to the old state of misunderstanding of the subject, have vanished before the light of a better experience and an advancing humanity. Insanity is no longer regarded as a *quasi*-crime, punishable by chains and dungeons, and by such a penurious provision for mere animal needs as would hardly be offered to the beasts of the household and yard. We no longer consider hospitals as Bedlams, but as sanative retreats, where there is only such considerate restraint as may conduce to the restoration of health or the assuagement of disease. Kindness has taken the place of indifference, neglect, and cruelty; and the insane are not indiscriminately regarded as *furiosi*,—one and all madmen,—on whom sympathy would be wasted, and who have no sensibilities left amidst the wreck of their faculties.

Insanity being a proper physical disease, it may be asked why should the law make any different provision respecting it from what it makes respecting other diseases? As a general thing, other diseases, except those of a highly contagious type, do not call for civil interference nor court publicity. We do not demand a commission or an inquest to decide whether a man has a fever raging into delirium, or whether he has a gen-



eral paralysis, or whether a surgeon shall be permitted to amputate his limbs or trepan his skull; whether a mother has a puerperal fever; whether an invalid shall be reluctantly banished to the West Indies or to some Arctic region, because he is consumptive; or, because he is scrofulous, shall be relegated to some doleful Spa to be drenched or bathed, against his stomach and will, in sulphurous distillations from the bowels of the earth,—or deeper. If we find a man sick or wounded in the street, we take him forthwith to the nearest hospital, without stopping to canvass our legal right to restrain him of his liberty. We act upon an impulse of humanity, and the reciprocal obligation of doing as we would be done by. But if a man is attacked with the disease of lunacy, he is not sure to be left to the care and watchfulness of his family, and the privacy of domestic treatment and nursing, under the customary advice and charge of the household doctor; but is liable, on the instance of some suspicious relative or friend, against the wishes and judgment of the rest, to the questioning of the law and its ministers. The civil authority is appealed to to take the custody of him. We are thus forced to give the case a publicity that may defeat a recovery, or we are stimulated to procrastinate dangerously in the hope of avoiding exposure, or are put to the expense, torture, and delay of an inquisition to establish the delirium or the lunacy which obviously enough exists upon the face of it. To require formal investigations where no question of legal obligation, of violence, of public danger, or of criminality is concerned, is worse than superfluous: it is inquisitorial and inhuman. The family and friends of a diseased person are not apt to omit any promising remedy or relief, or to object obstinately to the advice of a faithful physician. Whether he recommends exclusion of company



and the privacy of home, or the restraints and orderly care of a hospital, there is no more reason why a magistrate or the civil authority should inquire into the treatment, before it is deliberately impeached for cause, than there is for rescuing a patient from the hands of a skillful surgeon who is binding him to an operating table to perform an amputation which may save his life for a period, albeit at the risk of losing it at once.

In nine cases out of ten,—nay, in ninety-nine out of a hundred, to hit near the truth,—of lunacy or any other disease, the advice of an experienced physician will be safe to follow when he judges that a patient should go to an asylum for treatment; and if the controlling part of the family concurs with him, not perhaps cordially but permissively, it is difficult to perceive that anything further is necessary, in the same number of cases, except that the proper authorities of the asylum should also concur in that judgment and receive the patient, upon the ordinary arrangements for maintenance. When a reasonable doubt or a dispute arises, it will be time enough to appeal to the law and its enginery, and let the tenth or the hundredth exceptional case undergo the painful publicity and trouble of an inquisition, without forcing the nine or the ninety-nine that need no exposure, into the same unhappy predicament.

But if a legal examination must needs be had, we see no sufficient reason for distrusting the old familiar mode of inquisition by a jury. It is not likely that a departure from that would be satisfactory to the popular mind and feeling of this country; for there is doubtless, with all the real and speculative objections to it, a great tenacity for that mode of ascertaining facts that touch life, liberty, or property. We much doubt whether a simple commission of professional men, with-

out a jury, would not give more cause for suspicion and distrust, than a naked commitment by relatives and friends, under the advice of a physician, without any form of examination. By the common law, the courts always appointed a commission; but the commissioners were never allowed to come to a conclusion of themselves, although they might be all lawyers or doctors of medicine, or both, or neither, as the court might choose. The old writ *de lunatico*, originated in times when there was perhaps less reluctance respecting formal inquisitions into private affairs than now exists, but when also there was less chance for publicity. The knowledge of such proceedings was commonly confined to the vicinage, and did not gain that newspaper notoriety which is the shame of these days, and which makes any one but a politician or a quack dread to do or suffer any thing, however trivial, lest it be forthwith the common theme of busy and scandalous tongues. Then it was easier to get into the hospital than into the newspaper; now it is harder to escape from the newspapers than from the hospital. Then, moreover, the asylums were the *inforced* refuge of only the violent,—the furiously mad; everything being for restraint, and little or nothing for cure or comfort. Now the asylum is a sanitary retreat; and it seems to be the policy of modern legislation to favor that purpose by giving a preference to new and curable cases, and put insanity, more and more, on its proper footing of a physical disease.

The writ *de lunatico* always demanded a jury, and does to this day. A jury is the long recognized tribunal for ascertaining facts, which the law deems of importance enough to be verified; and notwithstanding the present proneness to doubt everything, object to everything, and upset everything, there is such a



stiff undertow of popular confidence in juries, instinctive almost in all nations of Northern blood, that it will be difficult to secure the same satisfaction, amongst a people so strongly veined with it as ours, from any other mode of ascertaining them. Every man demands the judgment of his peers, rather than trust to the technical closeness and nicety of professional men; and lawyers tell us that it is very difficult, in cases where facts are the issue, to persuade clients to submit themselves to such optional substitutes for jury trials, as tribunals of conciliation, single magistrates, and special commissions. So vigorous yet is the spirit of the common law.

There are some cases of nascent or undeveloped insanity which may be detected by the prognosis of a shrewd observer in time to check them by a prompt and unhesitating preventive treatment, which cannot await formalities; others where insanity is very strongly and truly suspected, but is not obvious enough for proof, and will not suffer delay; and others, which though obvious enough, require such a delicate and careful, and even covert treatment, that any discoverable interference or the apprehension of it, might defeat the purpose by confirming the disease. These should be regarded with an eye to their sanability rather than to their legal custody. They are often the most promising cases for the success of medical skill, and should be implicitly left to it. They may be checked, or matured, according to their handling, and none is so capable of judging of that as the medical man. In all such cases, there seems to be no occasion whatever for any interference of authority; and no obstacle, legal or conventional, should be allowed to oppose or hinder, but every inducement offered to encourage, their easy admission to a proper hospital, if

that is recommended in preference to private treatment, by the physician in charge of the case. His written request or certificate, assented to by the proper officers in charge, should be a sufficient *prima facie* authority for the reception of a patient.

Our primary regard is the benefit and cure of the patient, and the feelings of his family and friends, to which end we insist that a free and prompt access to a hospital should be allowed without any preliminary formalities of a dilatory or expensive character, and without needless exposure. As a general rule, a superintendent will on inspection and private inquiry recognize such cases as are fit, and detect those which are not fit, for his charge; and has, if he is qualified for his place, such judgment and discretion as will command confidence in his conclusions. As a general rule, too, the wishes of the family and friends, unless an improper motive is apparent, should have full credit as being earnest for the welfare of the patient, and the exceptions to that being unnatural and unusual, should not be presumed to exist in the face of a common and universal experience to the contrary.

A certificate or written request of an attending physician, or his personal appearance with the patient, should therefore, in ordinary cases, be sufficient to authenticate an application to the authorities of an asylum; who, if their own observation or knowledge of the patient confirms the belief that he is insane or a suitable subject for treatment there, should admit him on proper provision being made for his maintenance. When a mistake or a fraud is discovered, a removal may be summarily and quietly managed by the authorities misled or imposed upon, or if need be on their application to a Judge, who might require the committing party to provide for the case according to the



circumstances. If the patient be found sane, it is of course unlawful to detain him, and no formality is requisite.

Notwithstanding the general satisfaction that exists in communities where asylums have been long enough established to familiarize the people with their beneficial purposes and results, in the custody and treatment of insane persons, there is still in some parts of the country a lingering old-fashioned traditional prejudice against them. The officers are watched with suspicion and distrust, and there are not wanting those who take a grim pleasure in questioning their management, and resorting captiously to the legal weapons of *habeas corpus*, vexatious suits for damages, indictments, and legislative inquiries. It is natural enough that such officials should desire protection against such petty ebullitions of dissatisfaction and spite; but it is questionable whether any legal protection can be suggested which will not operate worse upon patients and society than the annoyances do upon those who are liable to them. Probably every asylum in this country has at some time suffered from this kind of persecution and mischievous interference; but experience shows that in proportion as the public benefit of such institutions displays itself, and the conduct of them becomes familiar, the community is disarmed of its apprehensions and prejudices, and the management is first tolerated, and then approved and respected. The notion of a secret tyranny and cruelty of treatment, of an undue infringement and restraint of personal liberty, and of an indiscriminate discipline of stripes and fetters, soon resolves itself, unless there be gross mismanagement and undue rigidity, into a persuasion of the necessity and benefit of order, quiet and strictness in the regimen of such establishments. The idea of chains and prisons

vanishes at the actual sight of the comfortable provisions for the protection, enjoyment, and cure of the patients; and those who first enter with prejudice and misgivings to examine the condition of such a retreat for disease and misfortune, go away with blessings on their lips for the humanity which has provided it, and the gentle vigor which governs it. It must be a rough community, indeed, that is not soon softened into a disposition favorable to those having such a noble charge; and whatever annoyances may grow out of unfamiliarity will disappear with time. All the old asylums of the country have safely encountered and survived prejudice and petty persecution; and all the new ones may undergo the same experience. Any legislation upon the subject would therefore seem to be of doubtful efficiency, and likely to be attended with annoyances of its own as insufferable as any it seeks to obviate.

The statutory regulations of the several States respecting the admission and discharge of insane patients, vary sufficiently to have suggested the idea of a more uniform legislation. If there is anything wrong in any of these regulations, the same authority which has prescribed, has the power to revoke them; but it is doubtful whether the most exact uniformity would really be any more favorable or efficient than such a diversity as is adapted to particular customs, feelings, prejudices and habits of the people. In some States there is a confirmed satisfaction with what exists; in others, the common sentiment has not as yet ripened to the same maturity, and there is a contest for less restraint on one side, and more responsibility on the other. These are local difficulties not capable of any universal adjustment. The most that can be done is to affirm and reiterate some general principle that commends itself to



intelligent approbation, and to leave it to make its way among men of sense and influence, as all good general principles will, until it becomes the common sense of the community.

Although insanity is a disease to which every man is liable, a feeling prevails regarding it obviously different from any that prevails regarding most diseases. It is so incapacitating, and involves such complete dependence; its effects upon the civil and social condition of a man are so distinctive; and it is the subject of so much popular apprehension and horror, that it demands a consideration, especially if a cure is expected, that is peculiar to itself. There are some diseases, it is true, that are somewhat akin to it, in the particular of a wish to conceal them entirely or limit the knowledge of them to the smallest circle; but there is none that, like it, affects the condition of the mental faculties, except the gradual decay of old age, which is the unconcealable prostration of all human activity and aspirations; an inevitable decrepitude, that excites little remark because it is but the cloudy obscurity of nature shrouding for the repose of death, at a period when such a termination produces no surprise and disappoints no calculations.

The affecting case of Charles Lamb and his sister Mary is an example of the good sense and delicate privacy with which insanity may be treated, and in the generality should be, notwithstanding an occasional clamor stirred up by some unfortunate instance of abuse or fraud or conspiracy in commitments. Lamb himself, about the period of manhood, voluntarily or involuntarily, spent six weeks, "very agreeably," he says in a letter to Coleridge, "in a mad-house at Hoxton. \* \* Mad I was! And many a vagary my imagination played with me, enough to make a volume, if all were

told." In a subsequent letter he says, "I look back upon it at times with a gloomy kind of envy; for while it lasted, I had many, many hours of pure happiness. Dream not, Coleridge, of having tasted all the grandeur and wildness of fancy till you have gone mad! All now seems to me vapid, comparatively so." Lamb was then a clerk in the India House, but his insanity seems not to have been known there, or, if it was, it did not affect his standing; for he remained and rose in that service, irksome enough to him indeed, till near the end of his life, when he retired on a comfortable pension. There was never a recurrence of the disease, nor was the knowledge of his early confinement ever so blazoned as to subject him to mortification on account of it. Had it met with a different treatment,—had he been committed to guardianship, or exposed to an inquisition, the effect upon such a sensitive mind as his might have been to confirm his madness, and to deprive us of that delightful display of genial pleasantry, exquisite criticism, unique essays, quaint and fine humor, and innocent merry jests and quips that the remaining forty years of his life produced for our enjoyment; and better than all, of that wonderful instance of unselfish and brave fraternal devotion which was so soon to be evoked. The next year after his own confinement and recovery, happened that fatal frenzy of his sister which provoked the homicide of her mother, and dismayed their unhappy household. Such an act of violence, imperatively demanded, of course, a formal inquest and her confinement to a hospital, of all which she was unconscious until her recovery. Her brother was then allowed to assume the sole charge of her, and for the rest of his days they lived together, without interference of the neighbors or the authorities. Often during those forty years was it necessary for her to seek her



old retreat; and she was always prompt to detect the symptoms which forewarned her of a recurrence of her disease, and to pack up her strait-jacket and other conveniences in anticipation of it; and when the inevitable occasion came, she invited her brother to accompany her to the hospitable asylum, whither they went hand in hand, and weeping, seeking the "gift divine of quiet sequestration." No officiousness interrupted or mortified them; no formal examinations of magistrates; no inquisitions of commissions or juries; no impertinent questionings; no newspaper remarks. It is somewhat to arrest our attention in these days of indelicate and unbounded license and impertinence, that even the proceedings on the inquest respecting the homicide of her aged mother, although published in some of the journals of that day, were obscurely printed, naming no names to identify the parties; and the whole was so feelingly and kindly done, and so soon forgotten, or kept so sacredly quiet, that although Charles Lamb became noted enough as a literary man to attract much observation and curiosity, it was not until after the death of both that this story of himself and his sister was divulged outside of the narrow circle of their intimates—such names as Wordsworth, Southey, Coleridge, Hazlitt, and Talfourd—who kept the secret until silence was no longer necessary to save any sensitive feelings. We wish all in a like situation to have the advantage of a like forbearance, and a like privacy and tenderness of regard. The thing most dreaded is the calamity of meddling tongues, and idle, unfeeling observation. Such griefs are of that sacred kind that while they force compassion, they shun notoriety, and are most grateful for silence and obscurity.

Mary Lamb's was a case of long lucid intervals, during which she acted with all the discretion and sensi-

bility of one who had fully recovered the placidity of her mind, except as it might naturally be ruffled by reminiscences of the past or apprehensions of the future. It would have been monstrously inhuman to have required her brother or her friends, on every frequent outbreak of her disease, instead of leaving them the free resort of the usual retreat which was her proper medicine, to undergo the scrutiny of a magistrate, or of some special legal investigation. Instead of a protection, it would have been a destructive infringement, of personal liberty. Such a necessity might have turned her case into one of continuous and confirmed lunacy, or have been a constant oppression and disturbance of her lucid intervals, which were intervals of pleasant domestic quiet and social enjoyment, refreshing her vigor for the better endurance of the attack which might seize her with the slightest warning; "those dear intervals," says Wordsworth, (spent with her brother,)

———— "nor rare nor brief,  
When re-united \* \* —they were taught  
That the remembrance of foregone distress  
And the worse fear of future ill, (which oft  
Doth hang around it, as a sickly child  
Upon its mother,) may be both alike  
Disarmed of power to unsettle present good  
So prized" ———

Had some inquisitorial formality been exacted before she could make her customary visit to her sanative retreat, it would have shocked her sensitive rational mind into dangerous solicitude, and would have needlessly oppressed her equally sensitive voluntary guardian and brother, who had a great horror of Bedlam as contrasted with the privacy and gentle treatment of the wonted asylum. It was to keep her out of horrible Bedlam that he made the great sacrifice of his domestic



aspirations, and assumed the charge and protection of her as his special life-long trust, which he discharged with the greatest tenderness and devotion, such as caused his friend Wordsworth to exclaim,

“O he was good, if e’er a good man lived.”

It would have been a manifest indefensible barbarity to meddle with their own discretion, and make a periodical hue and cry on every fresh accession of her infirmity, as if she were an escaped thief or a mad woman broke loose,—she

“—— the meek,  
The self-restraining, and the ever kind.”

The old maxim that it is better that ninety-nine guilty men should escape rather than one innocent man should suffer punishment, is a maxim applicable to crimes which we are not disposed to controvert; but the spirit of it does not cover the treatment of disease, or require that ninety-nine insane persons should be deprived of the free benefit of a suitable treatment because the hundredth may be surreptitiously restrained of his liberty. The casual and exceptional instance of that stamp should not be provocative of a general embarrassment and injury to all the rest, nor provoke the suspicion that all real disease may be a sham or a trick of conspirators, in which the family and the family physician are concurring. There is an occasional scoundrel of a doctor to make false representations and certificates, as there is an occasional scoundrel of a lawyer to betray his clients, and as, for that matter, there is also an occasional scoundrel of a more generally unsuspected profession than either, who belies both God and man. We might perhaps admit, out of deference to a leading apostolic precedent, that there may be one

in twelve of all these to be a Judas to his profession; but we should not, therefore, act and legislate as if no faith or trust should be placed in the rest. It is eminently right to provide reasonable and efficient safeguards for personal liberty; but we do not perceive that the disease of insanity demands any more stringent protection than the imbecility of infancy with its unfledged faculties or of old age with its decayed ones. A violation of the rights of all is an offence which only needs detection and complaint to command ample redress, by existing law, in all civilized communities.

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## CLINICAL CASES.

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REPORTED BY W. KEMPSTER, M. D.

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### CASE I.—*Abscess of Brain.*

J. W., aged 31; single; farm laborer; was admitted to the New York State Lunatic Asylum, December, 1867.

Patient is said to have had a previous attack of insanity, and to have been treated in an asylum; but the particulars are not known. Has been for the past six years employed by the informant, who commends him highly as a temperate, industrious, faithful and intelligent man. He is said, however, to have been prone to illicit sexual intercourse, and to have been troubled with seminal emissions.

Two years ago he was first seen to have what was called a fainting seizure. He became unconscious for a moment, and fell.

These seizures were repeated at long intervals, but never, so far as known, under such circumstances as to



lead to his bodily injury, or unfit him for his ordinary labor. About the first of August, 1867, he was struck on the head with a club, and rendered insensible for several hours. Soon after this he began to complain of severe headache, and pain in his bones. He kept about his work but was easily fatigued, and often compelled to sit or lie down for a time. At these times complained of vertigo, partial blindness, flashes of light, and the severest headache. He was often observed to be confused in mind, and complained that his sight was failing. In putting out his hand to take anything, would reach to one side of the object, or perhaps in an opposite direction. In reply to questions, would wander from the subject after a few words, and talk of something quite irrelevant. Paroxysms, usually happening at night, came next. In these the headache was excruciating, so that at times he was delirious; blindness was more complete, and there was persistent vomiting of blood and ingesta. On admission he spoke slowly, and occasionally failed to utter the right word. Appeared drowsy, and the countenance had a look of pain and anxiety. He manifests no delusions, and no moral perversion has been noticed.

The pain in his head was described as dull and heavy. His sight was seriously impaired, and it was with difficulty that he could distinguish objects. The sense of hearing was not impaired: appetite poor; cannot sleep well; pupils dilated; no paralysis.

December 23d. Appetite improved; is less depressed than when admitted; still complains of headache. His gait is uncertain, and when his eyes are shut can hardly walk at all. Is dull of apprehension, and in reply to questions, only a few words are relevant; becomes confused, and at length incoherent; says his headache is less severe than at first. January 7th, 1868, has paral-

ysis agitans right side; is unable to see distinctly; in bed; has severe headache; speaks slowly and with difficulty. January 17th, vomits grumous blood, mixed with mucous. February 1st, whole of right side of body in constant motion. February 10th, unable to sit up; is losing mental strength rapidly; mind is constantly confused; paralysis less marked than at first. February 13th, had a severe paralytic attack, preceded by vomiting. February 15th, attacks of paralysis are more frequent; fears that something is going to fall upon him. February 28th, is entirely blind; pays no attention to persons or sounds; grows weaker; has difficulty in breathing. March 1st, continued to grow weaker through the night; difficulty of breathing increased; the night watchman reported his having snored loudly (coma;) and at five and a half A. M. died.

March 3d, at request of friends autopsy held. On exposing the cranium, the pericranium was found thickened over the region of the posterior fontanelle. No unusual attachments between calvarium and dura mater; the latter bore evidences of previous inflammation, as did the upper surface of the cerebrum; more vessels being visible than is usual; they were also larger.

On removing the brain an abscess was found situated in the left middle lobe of the cerebrum; the arachnoid and pia mater being already destroyed, and the dura mater implicated. Upon turning the brain over (upside down,) an opening was found extending from the crus to the posterior margin of the cerebrum. The opening was two inches in length and one-half an inch in width; the edges were not well defined, the intermediary material being composed of pus and broken down brain substance. The brain was sliced from top to bottom, and the extent of the abscess became apparent. Almost the entire white portion of the left



hemisphere of the cerebrum was destroyed, its place being filled with a thick, greenish pus and debris. It was five inches in length, two and one-half inches in width, destroying corpus striatum, thalamus opticus, corpus fimbriatum, corpus callosum, pes hippocampi, and a mere trace was all that could be found of the choroid plexus. It had followed the course of the middle cornu, and destroyed the white substance adjacent. Anteriorly it had extended beyond the limit of the ventricle, effacing all traces of it in that quarter. The septum lucidum was destroyed, opening the third and fifth ventricles. Passing through the foramen of Monroe, the liquor puris entered the right ventricle, and the disease had destroyed the white medullary substance in that locality, filling the ventricle with a straw colored serous fluid.

On the floor of the right ventricle, near where the anterior cornu passes off, were two prominences, one the size of a large pea; the other, about the size of a common white bean. The latter, on being opened, was found to contain a blood clot, not encysted; the former seemed to be simply an excrescence pushed up from the floor of the ventricle. The choroid plexus was found diseased at the point where it enters the right ventricle, implicating the plexus for half an inch. In the lining membrane of the ventricle, numerous large vessels were seen, and the whole membrane was of a decided pink tinge. The aqueduct of Sylvius had been opened, and a mass of purulent material had filled the fourth ventricle, contaminating its walls and plexus, forming a centre of disease in the cerebellum.

The anterior part of the optic lobes (tubercula quadrigemina) of the right side, were of a pink color, and although surrounded with pus, they appeared to have resisted the disease. The left crus cerebri had been

attacked, and a suppurating surface was found upon its outer layer nearly one-half inch in diameter.

At various points on the walls of the abscess, small blood clots were found, but there were no indications of a hemorrhage. The pus and debris in the main abscess was of a green color, without appreciable odor, and very thick.

Between the 1st and 13th of February, the paralysis agitans subsided, and the paralytic "seizure," mentioned on the 13th, was general paralysis. These attacks were always preceded by vomiting, and became more frequent toward the last.

It will be seen that from the first his speech was materially affected, yet the disease did not extend to the third frontal circonvolution of the left hemisphere, where M. Broca locates the organ which presides over the function of speech. Nor in fact was any of the gray matter of the frontal lobe implicated; and posteriorly only near where the opening of the abscess occurred. With so much of the brain structure destroyed or involved, it is somewhat remarkable that no other manifestations were apparent, or indeed that the man's life was prolonged.

#### CASE II.—*Softening of the Gray Matter.*

J. B., aged 30; single. Was admitted February, 1868. The following history was given: Has always borne the reputation of a "kind-hearted, honest and faithful man; not addicted to drink, but chewed great quantities of tobacco." About May 1st, 1867, he began to entertain enlarged ideas of property, and boasted of entering into extensive contracts. After about two weeks, he became apparently rational; subsequently, however, he grew dull and stupid; gave evidence by his actions that his mental faculties were failing. About



the last of January, 1868, he began to talk to himself, laughed immoderately, without apparent cause, and paid no attention to what was said to him. He then became alternately violent and calm; at times recognized his friends, at others disregarded them. Refused food, and was restless at night.

Soon after admission to the asylum, had several convulsive seizures, in which the muscles were forcibly contracted; but they passed off without apparent inconvenience to him. Speaks in monosyllables; is stupid; takes no notice of any one or anything. Is in bed most of the day; when up he walks the hall in an excited manner, making gesticulations without speaking. Subsequently became filthy in habits; passed his feces and urine in bed, and did not seem to have any appreciation of the fact.

February 13th, had a tonic spasm; the body distorted, legs and forearms forcibly flexed; the spasms returned frequently during the twenty-four hours, each lasting from half an hour to two hours at a time. On the 22d, was detected in self-abuse. 24th, eats and sleeps well; refuses to stand; is persistent in the habit of self-pollution. March 3d, spasms continue, but less frequent and severe than formerly; moves his lips, but does not speak. March 17th, in much the same condition. When attempts are made to raise him up, he flexes his limbs, resists, and will not allow himself to be dressed. The bodily functions are performed regularly. Does not reply to questions. May 6th, has occasional convulsions, and speaks a few words intelligibly. Up to the present time he has lost flesh rapidly, but his appetite is good. May 12th, spasms have occurred more frequently since last date, and there has been more muscular rigidity. Evacuations made in bed, apparently involuntarily. May 20th, is losing flesh and

strength rapidly; appetite still good, and he sleeps well. May 29th, very weak; has purulent discharges from eyes. June 6th, continued to emaciate rapidly, and died to-day.

June 7th, post mortem examination of the brain revealed the following condition: Scalp adherent to calvarium. The arachnoid was raised from the convolutions, on each side of the longitudinal fissure, by serous fluid beneath. There was also a deposit of lymph lining the edge of the fissure, under the vertex of the cranium.

The membranes were deeply congested, and upon cutting into the superior longitudinal sinus, it was found filled with a firm clot. Upon opening the membranes the anterior lobes of the cerebrum were adherent to the dura mater by fibrous bands; the dura mater was firmly attached to the frontal bone and orbital plates; the bands were dissected off, and the brain separated from the membranes very readily. When the brain rolled out the optic nerves appeared to stretch, and all the cranial nerves separated from the brain substance by tearing out. The gray matter, especially upon the under surface of the left anterior lobe of the cerebrum, was very soft, so much so that the outlines of the convolutions were indistinct. The olfactory bulbs were both completely destroyed, no trace of them remaining. The gray matter was not so soft near the posterior lobes, but it was much softer than usual, and darker than normal, except where it was broken down.

Upon slicing the brain the medullary substance was found harder than natural. After the cut surface had been allowed to remain untouched for a few moments, it appeared as though a soft brush dipped in blood had been drawn over it, and had left the furrows made by the hairs filled with blood.



The ventricles were entirely free from clot or serum; both the brain and spinal cord were devoid of the ordinary amount of serous fluid.

The left hemisphere was smaller than the right, and it was upon this side that the arachnoid was more easily detached, and had serum effused beneath. The cerebellum was very much darker than natural, but apart from this no other change was noticed.

The softening of the gray matter about the roots of the eighth and ninth pairs of nerves, would account for the man's speechlessness, independent of M. Broca's theory. But notwithstanding the conditions found, the man did at various times utter audible words, generally monosyllabic, but still sufficient to show that he was not wholly deprived of the power of speech. If the particular organ which presides over speech may be localized, it is difficult to understand why every other function may not also be localized, returning at once to a phrenological standpoint, a position we are not prepared to assume.

The most noticeable feature of this case was the convulsions; they were not epileptiform, nor paralytic in character, but appeared more like the tonic spasm of children, frequently arising from intestinal irritation. His inability or aversion to communicate, did not, of course, permit us to make a subjective examination, hence we were deprived of important facts in making a diagnosis. The objective examination, apart from the convulsive attacks, presented no peculiarities *per se*, which would have led to the conclusion that such grave pathological changes were in progress.

### CASE III.—*Serous Apoplexy.*

C. P., woman, aged 15, was admitted in November, 1867. About six weeks previous to admission, is said

to have been ravished by some boatmen, and soon after showed symptoms of insanity. She was confused, destructive of clothing, noisy at night, talked to herself, and when spoken to, "Wished to have those men kept away." Fancied that the men who had maltreated her were constantly after her, and she begged for protection. Aside from this subject she would not converse with any one.

November 15th. Eats and sleeps well; is in fair general health; voids urine in bed; walks floor continually. From this time until March 13, 1868, no special change occurred, except that she became demented and quiet. Upon the date last mentioned it was noticed that she was very anemic, and was put upon appropriate treatment. Shortly after this she began to walk the hall again, and whined, "Show me my father." These were the only words spoken.

May 26th. Has improved but slightly; does not respond to the treatment; is thin and pale, notwithstanding her good appetite and sleep. At tea time this evening complained of nausea, and vomited slightly; became faint, and was put to bed. Was soon unconscious, and at eight o'clock was comatose; right pupil dilated; breathed stertorously; extremities cold; pulse too rapid to be counted; at ten P. M. died.

May 27th. Autopsy revealed the following condition. Scalp nearly half an inch in thickness. On opening the cranium a large quantity (nearly four ounces) of serum escaped. The meninges were thickened, and bore traces of previous congestion. The vessels were enlarged, and more numerous than in the normal state. The arachnoid was raised from the convolutions in various places, principally over a tract two inches in width on each side of the longitudinal fissure. There were other places on the hemispheres where the



membrane was raised by the fluid beneath. These patches bore a striking resemblance to a blister, having well defined edges. The gray matter of the brain was normal in appearance and consistency. The white matter was very soft and jelly-like, and was devoid of the puncta vasculosa. Both lateral ventricles were distended with serum. The choroid plexus was larger than usual, and was of a deeper color, having apparently been gorged with blood. The spinal canal contained a larger amount of serous fluid than normal, while the cord itself and the membranes were pale.

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## BIBLIOGRAPHICAL.

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### REPORTS OF AMERICAN ASYLUMS.

Our last number contained abstracts of some thirty-two different Institutions for the Insane in this country. We now resume the catalogue, hoping to be able to embrace the remainder in this paper.

XXXIII. *Biennial Reports of the Directors and Medical Visitors and Fifteenth Annual Report of the Superintendent of the Insane Asylum of California.* Stockton.

Dr. Shurtleff reports the number of patients October 1st, 1865, as 632: admitted in 1866, 279: discharged recovered 131, improved 8, unimproved 5: escaped 12: died 62: remaining October 1st, 1866, 693. Admitted for 1867, 313: discharged recovered 125, improved 14, eloped 9: died 89: remaining October 1st, 1867, 769. The whole number under treatment for the past year has been 1,006. The mortality seems large at first sight, being nearly 9 per cent. of the whole number

treated. Dr. Shurtleff says, that "the large number of deaths is owing to the extremely low condition of many of the cases when received. Many have been sent from county hospitals exhausted and in the last stages of incurable disease." It appears that 28 per cent. of the deaths were from consumption, and 15 per cent. from general paralysis. The doctor recommends the construction of a high wall or fence around the premises, as tending to diminish the number of escapes. Dr. Shurtleff has a curious passage as to the history of insanity in California, and the question of climatic influence, which he maintains, amounts to nothing. In 1850, two years after the gold discovery, there were but 22 insane in the State. In 1852, out of 124 admitted to the new institution at Stockton, only 3 were natives of California. On this subject he says:

We need not, therefore, look for any single influence to which to attribute exclusively the rapid development of mental disorder in this State. The circumstances of its settlement and growth have been productive of some of the most prolific causes of insanity. It has been said that it sprang forth full grown, like Minerva from the brain of Jupiter. It is, indeed, literally true, that the laws of nature and social life were violated in its earlier settlement. In a few months a great State was formed mainly out of but one of the two essential elements—male and female—of society. The people multiplied, but were not fruitful; neither was the earth adequately replenished therein in the manner directed by primeval command. The equilibrium of the sexes was destroyed, and nature's appointed proportion of each, though steadily approximating, is still un-restored.

The humiliating result, unless our medical witnesses have been too ready to ascribe solitary vice as a cause of disease, is exhibited in a subsequent table. Of all the causes of insanity which appear more productive in California than elsewhere, this debasing habit is the most prominent. But it is quite probable that the extent of this vice, as a primary cause, is over-estimated, as it is frequently but the result of a morbid excitement induced by the antecedent occurrence of cerebral disease.



Fast living, intemperance, disastrous speculations, sudden reverses of fortune, disappointments, separation from family and friends, and an unsettled condition of life, are causes of mental derangement which exist more or less in all civilized countries, but which are supposed to be specially prevalent and influential in California. And to these exciting causes is constantly exposed a fresh population with its susceptible and untried subjects—an immigration of thirty thousand a year to take the place of a returning twenty-five thousand, each human wave casting upon the strand a mental wreck evermore there to remain.

So steadily and rapidly has insanity increased in this State, taxing her charity at this time at the rate of more than one hundred and fifty thousand dollars per year, that it has become the duty of patriot and philanthropist to investigate its causes, and to learn, if possible, those productive influences, if any there be, which are more active here than elsewhere.

The cause to which he so pointedly alludes in the above extract, stands at the very head in his table of statistics, whereas in most asylums in this part of the country, it ranks as sixth or seventh in the number of cases: but as the doctor casually points out, it should be borne in mind that at least five-sevenths of the California insane are males, following the proportions in the population, while in the eastern asylums, the sexes are about equally divided.

We are glad to note the following observation in this report:

California provides for the chronic and incurable, as well as the more recently afflicted of its insane, in the State Asylum. Thus accumulated, the number appears and really is very large. But I trust our State will continue this more humane policy, even should it eventually involve the necessity of multiplying its institutions.

Dr. Shurtleff reports the work on the new building for this Institution in a good state of progress. All the female patients are now received in the new edifice.

XXXIV. NEW YORK. *The Marshall Infirmary.* Troy.

In the Troy Daily Times of February 14, we find an account of the regular quarterly meeting of this Institution, held January 27, 1868. The Report of the Medical Superintendent, Dr. Lomax, was submitted, from which we gather the number admitted into the Insane Department for the quarter ending January 27, as 16: discharged cured 3, improved 4: present number in the Insane Department 102. Since 1859 there have been received into the Insane Department 424—men 169, women 255, of which have been discharged cured 106, improved 69. It is a remarkable feature in the history of this Institution that so many more women are received than men. It does not arise from any regulation, or discrimination. Dr. Lomax speaks of it as a “strange fact” not yet accounted for. The doctor lays due stress upon the means of mental diversion forming part of the internal arrangements of the Asylum, among them a “new theatre,” giving a specimen of one of the “bills.” He also speaks of the religious services, and their good effect on the patients, and adds:

My opinion, however, accords with that of those who have had long experience in the treatment of insanity. Dr. Gray undoubtedly expresses that opinion in his report for 1866. He says: “Every year’s experience more and more confirms my opinion that it is difficult to over-estimate the value of regular religious services and personal visitations through the wards of the hospital by a chaplain who is thoroughly competent, and whose heart is fully in the work.”

XXXV. *Annual Report of the New York City Lunatic Asylum, Blackwell’s Island, for the year 1867.*

Dr. Parsons reports as remaining January 1st, 1867, 767—men 259, women 508, 18 of the whole number being negroes: admitted during the year 674: discharged 402; died 122; remaining January 1, 1868,



917—men 329, women 588. Of the discharged, 202 were recovered, 115 improved, and 85 unimproved. Here too we observe a great preponderance in the number of women, for which no reason seems to be given. Of all the admissions only 131 were born in the United States.

The record of those who have done a fair day's work shows an average of 160, besides about 120 that have worked part of the time. A vast amount of work has been done on the island by work-house and penitentiary men in building sea-wall, blasting, and removing rock ledges, &c. The hospital for epileptics and general paralytics has been consolidated with the asylum, and placed in charge of the resident physician. On this change Dr. Parsons says :

The propriety of consolidating the hospital with the asylum will appear in a stronger light when it is understood that no less than fifty-five epileptics and a considerable number of general paralytics are now inmates of the asylum on account of mental impairment that renders them unfit for any other Institution; that in the department for epileptics no less than twenty-nine are always, or often, insane, while seventeen are demented to the same degree and in the same sense as are very many of the patients in the asylum; and that in the department for paralytics one is insane and seven are demented, while in the case of many of the others the mind is more or less enfeebled.

Among other changes, the office of warden, or steward, has been created, and an apothecary and a head cook appointed. Of this last Dr. Parsons warmly says :

Of all the new appointments, however, that of cook will not yield in importance to any of the others. Under the new dietary scale, provisions are bounteously supplied, both in quantity and variety. Yet this would be comparatively of little avail, unless the food were properly prepared, both with a view to economy in saving all the nutrient principles, and with a view to its proper adaptation to the purposes of nutrition. When it is considered

that the insane are, as a class, below the ordinary standard of physical health, and that with an improved physical condition we may fairly hope for improvement in the mental condition also, it will, I think, be conceded that the office of cook is scarcely inferior even to that of physician. As a purely economical measure, it is believed that a good cook can make an actual saving of much more than the amount of his salary.

The doctor also gives his "dietary table," and with it a most businesslike account of the way things are managed in this Institution. Altogether this report is one of the most practical and straightforward documents we have seen. While recounting with pleasure the improvements recently made, he points out more that are still needed. The buildings are overcrowded. No less than 304 are obliged to sleep on beds laid upon the floor. This is ruinous, and it is wonderful so small a death rate as eight and a half per cent. is reported. It appears there are not over six wards for either sex. It is hoped the new building contemplated will be pushed vigorously forward.

Dr. Parsons goes at length into the advantages of a regular bath-house for hot and cold bathing for patients, and earnestly urges the erection of one for which he suggests the proper arrangements. On this subject he says:

The above mentioned use of the bath-house is hygienic and curative in a general way. But there are some patients, especially cases of melancholia, in whom the glandular system is torpid and the skin harsh and dry, who would receive much benefit from a bath that would strongly stimulate the skin, and at the same time invigorate the general system. For these the vapor and hot air baths would furnish a means of relief that is now entirely beyond our reach. While the vapor and hot air baths were in use, the ordinary bath room could be so heated as to answer for the preparatory room. With a bath-house constructed to fulfill the conditions referred to above, it is thought that the efficiency of the Institution in securing the comfort, physical health and cure of



patients would be very much increased, and, moreover, without any addition to current expenditures.

One other great improvement is suggested by Dr. Parsons—the building up of the wide porticoes in front of each wing, which now only darken each hall, and securing thereby a pleasant alcove or day room for each department.

The average expense of patient's support at this Institution during the last year has been \$2.12.

XXXVI. INDIANA. *Nineteenth Annual Report of the Commissioners, Superintendent and Steward of the Indiana State Hospital for the Insane, for the year ending October 31, 1867.* Indianapolis.

Dr. Lockhart reports at the close of the preceding year 273 patients; admitted since 233: discharged restored 125, improved 28, not improved 26: died 34: not insane 1, eloped 1: remaining October 31, 1867, 291.

The pressure upon this asylum for admissions has been very great. More than 100 recent cases have had to be refused for want of room. But it is satisfactory to know that a large extension of the present buildings is in progress. The building committee report as nearly enclosed a structure, four stories high, 200 feet in length, and containing 184 rooms.

XXXVII. PENNSYLVANIA. *Fifty-first Annual Report on the State of the Asylum for the Relief of Persons deprived of the use of their Reason.* Frankford, Pa.

Dr. Worthington reports at date of last report 59 patients: received since 31: discharged restored 12, improved 7, stationary 3: died 6: remaining March 1, 1868, 62—men 33, women 29.

The situation and surroundings of this Institution are all of the pleasantest kind, and well adapted to have the happiest effect upon patients.

We transfer to our pages the following passage upon the joint "Medical and Moral Treatment of Insanity."

Insanity being a physical disease it is reasonable to seek for its relief and cure in such remedies as by their action on the physical organism are capable of removing the diseased condition. It was formerly more common to consider it either as purely mental, or as of a mixed character partly physical and partly mental, and its treatment accordingly consisted partly of remedies to act upon the diseased bodily states, and partly of recreations and amusements and of various moral agencies designed to influence the morbid condition of mind. Hence the distinction into medical and moral treatment, which were considered as having so little connection with each other, that in most of the older Institutions it was regarded as an advantage to have them directed by different heads. This distinction has, however, proved to be more nominal than real, and though the terms are still used, it is in a sense less strict than that in which they were formerly employed. It is well known as the result of long continued experience that the influence of cheerful scenes and associations, and of freedom from care and anxiety upon the bodily health in many forms of chronic disease, is as beneficial as that of remedies strictly medical; while good nourishment, fresh air, cleanliness and exercise, are quite as promotive of cheerfulness and mental tranquility as what might be considered more strictly as moral treatment. It is this influence upon the bodily health of cheerful scenery and surroundings, and of all the various recreations and amusements generally understood by the term moral treatment, which brings these agencies specially within the province of the physician and places them in the rank of the most valuable remedies for the relief and cure of Insanity.

The Library in the Garden is a very attractive feature among the many pleasant accompaniments to this Institution.

XXXVIII. MASSACHUSETTS. *Twentieth Annual Report of the Trustees of the Massachusetts School for Idiotic and Feeble-Minded Youth.* Boston.

Dr. Edward Jarvis, superintended this School for seven months up to the date of this report, (October,



1867,) temporarily supplying the place of Dr. Howe, the Superintendent, who went to Europe during the last season for his health. Dr. Jarvis reports 70 pupils at the beginning of the year: received 14: discharged 16: remaining October 1, 1867, 68. Since the year 1851, when the Institution was opened, there have been 429 applications, of which 345 were from within the State, and the number actually admitted has been 363.

As in the case of Insane Asylums, and nearly all our benevolent institutions, it is found that the extent to which their advantages are made available depends very much on the question of distance or proximity. Thus reckoning four districts from Boston to the west end of the State, the ratio of patients sent from each respectively is expressed by the following numbers: Boston, &c., 100; Middlesex, &c., 70; Worcester, &c., 43; Berkshire, &c., 37. This has been so often demonstrated that it may be received as a general law.

This subject of idiocy is one of great interest, and the labor of developing intelligence in a defective organization somewhat akin to that of restoring mental functions that have been deranged by disease. Wonderful advances have been made of late years in the mode of dealing with what was once considered a hopeless class of cases. Dr. Jarvis gives many suggestive hints as to "Home Education of Dull Children," and in the following passage which we quote from this report, incisively probes one great fault in domestic management, which we know to be very common:

Some are brought to this Institution as idiots, who might have been preserved from that low state of intellectual and moral being, if their parents had been able and willing to give them the aid for their development that they needed. They were dull and incomprehensible, or, at least, less impressible than the others, and wanted more stimulation, more teaching, more aid, than their brethren and sisters.

Yet as they needed more, less was given; as the ordinary efforts failed to influence and develop them, even these were taken from them.

The bright, the intelligent, the quickly apprehensive and largely comprehensive; those who, in spite of neglect and obstacles, would learn, and acquire knowledge under any difficulties; these are offered every encouragement and aid. Their path is laid broadly open, and they are invited and urged to go onward and upward, acquiring more and more intellectual power in themselves, and receiving more and more of the world's sympathy, as their capital of both increases. On the contrary, the child that is apparently endowed with no natural gifts, is left without aid, to grope his way in the dark; and hence the dull child may be forced, by domestic and social neglect, to become feeble-minded, and the feeble-minded to become an idiot, and the idiot of the higher order fall to the lower, because he can do so little. While, on the opposite end of the scale of intellectual power, the generous encouragement of the family at home, and of society abroad, carry the richly endowed from strength to strength, from broad to still broader learning, because they can do so much.

The faithful shepherd of old left his ninety and nine sheep that could take care of themselves, and went out of his accustomed way, and gave all his time and power to save the poor wanderer that could not be preserved by the ordinary care and watchfulness. So the poor idiot, the feeble-minded and the dull child should be the first object of interest in the family and in the State. Inasmuch as he is made poor by nature, he should be made rich by the more abundant attentions, the warmer and more effective sympathy of those who have any responsibility for his development and education.

The trustees have applied to the Legislature for an appropriation to enlarge the Institution by an additional school-room, an infirmary, workshop, gymnasium, &c.

XXXIX. SOUTH CAROLINA. *South Carolina State Lunatic Asylum.* Columbia.

Dr. Parker has sent us the following statistics in advance of the publication of his report. By the last report, (for 1866,) there were in the Institution 142 patients: received since 119: discharged cured 40:



died 11: escaped 2, removed 4: remaining at close of the year (1867) 204—men 90, women 114.

Dr. Parker states that the "colored insane are comfortably provided for in separate buildings with pleasant grounds, and under the immediate care of faithful and experienced attendants of their own color. They are clothed, fed, and in every respect treated as the white patients." The number of these patients received since last report is 42: cured 10: died 2: remaining 32. All of these patients are classed among the pauper insane.

XL. MISSOURI. *Report of the Missouri State Lunatic Asylum, October, 1867.* Fulton.

Dr. Hughes has kindly transmitted us an abstract of his annual report made for 1867, the reports of the officers of this institution being published only biennially.

This Institution was closed in consequence of the war, from 1861 to 1863. Since its reopening in 1863, it has admitted 618 patients. The number at date of last report was 265: admitted since 164—men 96, women 68: discharged recovered 41, improved 10, stationary 14: died 31: remaining in the asylum November 26th, 1867, 333. Dr. Hughes urges on the Legislature various needed improvements, such as the substitution of gas for coal oil, enlargement of reservoirs, purchase of a fire-engine, water-tanks in the attic, tramways in the basement, iron stairways for rear exit, &c.

We append the Doctor's additional remarks:

We have assembled our patients five times a week during the past year, in the amusement hall, instead of twice as formerly, and found more salutary results than when they assembled less frequently. Our patients are walked out and worked more than heretofore, and we think they convalesce more rapidly, more certainly and more frequently than they used to with less exercise and less labor.

The experience of the past year has afforded us no new light upon the pathology of insanity, nor have we been enabled to deduce any new methods of medical treatment. The Fenocy auide of iron has given the most satisfactory results in epilepsy, one case of daily recurring paroxysms having been suspended several months under its persistent use in large doses.

We have fatal accidents in our household. One case which came near resulting fatally, was that of an attendant cut by a patient, while attempting to prevent him from escaping, while out walking. The patient had obtained a large bladed pocket knife, and in his attempts to extricate himself from the attendant, inflicted a severe wound of the parotid gland and severing the external carotid at the point of bifurcation into the temporal and post auricular.

The attendant had bled profusely—almost to the point of syncope—when we reached him. We cured him by applying a hard conical compress to the bleeding artery, and maintaining it for seventeen days. We should have been obliged to cut down upon the primitive carotid and tied it at once had the wound been two lines lower down and the bleeding not stopped spontaneously, but we risked compression, because, at the moment when we were ready to operate, the blood coagulated in the meshes of the parotid, and the hemorrhage ceased.

We had a gland surrounding the cut vessel performing nature's hemostatics, and we had a bony base to press upon, and four hard bases of support for our retaining bandage—the occiput, sinciput, chin and the top of the cranium. The temporal and the post auricular are now both pulseless.

Probably no such a fortunate wound of the external carotid has before occurred in the annals of surgery.

XLI. KANSAS. *Third Annual Report of the Officers of the State Insane Asylum, located at Ossawattomie.* January, 1868.

Dr. C. O. Gause reports number of patients received since November 1, 1866, as 22: discharged recovered 10, improved 2: number remaining November 1, 1867, 22. Dr. Gause states that 38 applications have been refused for want of room, and the trustees make an urgent appeal to the Legislature to enlarge the Institution, stating that many of the insane of the State are driven to find accommodation in the hospitals of other



States. The present building has but two wards, one for either sex, and hence allows of no classification. Dr. Gause is laudably endeavoring to impress upon the people of his State the importance of *early treatment*, which, of course, is rendered impracticable by too limited accommodations. He estimates the whole number of insane in the State at 150. Dr. Gause closes his appeal for enlargement in the following decided terms. It is well that our new States should learn this lesson as soon as possible:

It is impossible to be successful in the treatment and care of the insane with cheap buildings and cheap arrangements. The cost of hospitals for the insane cannot be reckoned in comparison with the other State edifices, as the peculiar use for which they are intended require many hundreds of dollars' expenses in construction. About eighty per cent. of the insane require a large well-ventilated room to sleep in, separated from others by a wall of solid masonry.

The cost of modern built asylums in the United States is about one thousand dollars for every patient provided for. I am unable to find an instance in the United States where State institutions of this kind have cost less than three hundred thousand dollars, while many of them cost double that sum.

I believe that the sum of two hundred and fifty thousand dollars should be appropriated by our next Legislature for building purposes, and the erection of an edifice for the home of the unfortunates within our State carried forward without delay. "Do unto others as ye would that they should do unto you," is the injunction which should be practiced in this great and good work.

We learn that the Legislature has appropriated \$20,000 for building, \$7,500 for maintenance of insane, \$1,000 for superintendent, \$600 for the matron, and \$1,200 for assistants.

XLII. OREGON. *Report of the Oregon Insane Asylum to the Governor, George L. Woods, for the year ending August 31, 1867.* Portland.

Dr. J. S. Giltner, "Inspecting Physician of the Insane Asylum of the State of Oregon," reports the number of

patients in the asylum September 1, 1866, as 79—men 58, women 21: admitted during the year, men 21, women 12: discharged cured 11, died 5, escaped 3: remaining August 1, 1867, 93—men 68, women 25.

As in California we observe here great disparity in the numbers of each sex, which is owing to the preponderance of men in the general population. The small per cent. of mortality shows a good sanitary condition. Out of the 93 under treatment 55 are Americans. Dr. Giltner states that the largest proportion are of the laboring class, and mentions continuous physical labor without recreation as one of the most frequent causes tending to bring on insanity. Doubtless the labor of a new country is generally more trying and severe than that of old settled communities. On this subject he says:

In the different mechanical pursuits, where more mental labor is required, the tendency to insanity decreases; and as we proceed a step further, we find as men have still more mental labor to perform and less physical, the tendency is still less, showing clearly that in order to maintain a healthy condition of the mind, mental labor and physical recreation must be practiced more than is now common among the laboring classes. And if we would improve the mental condition of our laboring population and lessen the tendency to insanity, we must endeavor to ameliorate their physical labor and increase their mental culture—i. e., give them less work and more recreation.

Dr. Giltner finds also that a large proportion of his patients owe their insanity to self-abuse.

Several acres of fir grove adjoining the asylum have been enclosed with a high fence, and swings and other fixtures erected for the exercise and amusement of the patients. The Institution has a farm, and a good supply of spring water, which is pumped into a reservoir in a tower elevated above the main building.



XLIII. ALABAMA. *Annual Report of the Officers of the Alabama Insane Hospital at Tuskaloosa, for 1867.*

Dr. Bryce reports in hospital October 1st, 1866, 74 patients—men 44, women 30: admitted during the year 77: discharged cured 13: improved 3: died 15: eloped 3: remaining, October 1st, 1867, 115—men 67, women 48.

The law of the State establishing this hospital was passed in February, 1852, but the building was not opened for patients until 1861. Dr. Bryce gives the following description of this Institution:

It is situated about two miles east of Tuskaloosa, on a gentle elevation, and surrounded by beautiful groves and varied landscape scenery, and has an abundant supply of good spring water. The plans for the building were furnished by the Association of Medical Superintendents of American Hospitals for the Insane. The building is of brick throughout, and is composed of a large centre building, four stories high, surmounted by a handsome dome; and wings, three stories high, extending in a right line on either side. For the purpose of light and ventilation, these wings are each subdivided into three sections, and the sections connected with each other by cross halls of the same height and dimensions. The whole is finished in stucco and roofed with tin, and presents, when viewed directly from the front or rear, a right line measuring seven hundred and eighty-four feet. The wings have each three campaniles, corresponding with the sections, and connecting with the ventilating shaft or foul air duct which extends along the entire attic.

The centre building contains more than thirty large rooms, exclusive of a beautiful and commodious chapel, and is appropriated to business offices, public parlors, officers' quarters, kitchens, store rooms and servants' rooms. The wings together contain eighteen halls or wards, and upwards of three hundred dormitories for the use of patients. Each ward has a distinct dining room, parlor, bath room, drying room and water closet; and is intended to accommodate about twenty patients. The building will be warmed by radiation from steam pipes, arranged along the basement stories or cellars, and will be susceptible of a temperature of 70 degrees Fahrenheit, in the coldest winter weather. It will be ventilated

by one of Meigs' revolving fans, driven by machinery. Water from an unfailing spring is forced by a Worthington steam pump, into tanks located in the attic of the centre building. Hot water tanks are conveniently placed in the basement, and heat is supplied to them by coils of steam pipe passing through them. They are supplied with water by connections with the tanks in the attic. Cold and hot water is distributed throughout the house by means of iron pipes. The cooking, washing, and drying, will be carried on by steam, so far as it is available, and the building will be lighted throughout by rosin gas, manufactured on the premises. Speaking tubes communicate from all quarters with the offices in the centre building. The sinks, soil pans and water closets are ventilated by downward currents passing into the large smoke stack connected with the boilers, and so complete is this arrangement that no disagreeable odor can be detected in any part of the house.

The building and grounds cost two hundred and fifty thousand dollars—the exact sum, I believe, estimated by the Association of Superintendents, as necessary for the purpose; and less, perhaps, than any similar Institution, of the same size and appointments, in the Southern Country.

The war of course prevented the full completion of all the accessories necessary for the proper working of the Institution, such as the arrangements for warming, ventilating, lighting, washing, &c. Only the west wing has been occupied, the first and third floors by the men and the second by the women. Dr. Bryce anticipates, however, that before the autumn of this year both wings will be nearly filled with patients, and urges the completion of all the remaining necessary appliances. Among other improvements during the last year, two acres of the grove in the rear of the west wing have been enclosed by a brick wall for an "airing court," and about \$5,000 expended in repairs, furniture, &c.

Of the 77 patients admitted during the year, 10 are negroes. A separate portion of the hospital is assigned to them. Dr. Bryce observes that



As a class, negroes enjoy much greater immunity from mental derangement than the whites, and where the aberration is the result of disease, in contradistinction from congenital stupidity, their recovery is equally promising.

He also dwells upon the difficulties in Alabama, in the way of securing early treatment of the insane, owing to the fewness of railroads, and the consequent labor and expense of reaching the Hospital from any part of the State. This causes too long detention at home after the attack. He gives one or two very striking instances of fatal consequences attending this delay and a conveyance for long distances over rough roads in lumber wagons. One man was carried over 150 miles tied down to the bottom of a wagon without springs, exposed to the burning rays of the sun in mid-summer, neither eating nor sleeping during the whole journey! No wonder he died within ten days after his arrival at the hospital.

The report of Dr. Bryce is a very instructive document. His "remarks" on the various statistical tables given, embody valuable and suggestive hints. He finds that the proportion of private or paying patients in his State has decreased from a proportion of about one-third to *one-ninth*, and less—a very significant indication of the great impoverishment of that section of the country.

There appears to be no marked effect of social or civil state, on the prevalence of insanity. The insane single and married are nearly equal. The reason why in Europe the insane single men exceed the single women in the proportion of five to two, is because the marriage of men is deferred to a later period, as a general rule, than in this country. Neither can any rule be laid down as to the effect of occupation.

Dr. Bryce's discussion of the subject of causation is at once sensible and concise. We cannot refrain from

extracting a passage from it which he calls a “digression,” but which we are free to say we gladly welcome, in strong contrast as it is with so much of the nonsense of Positivism in these days:

It will hardly be disputed, I presume, whatever be the nature of the cause, that insanity is the result of a diseased condition—a physical lesion—of the brain. No cause can be effective in producing mental aberration unless it first impairs the physical integrity of the brain, which is the organ of the mind; and hence, all causes are, sooner or later, physical. This cerebral change may not always be obvious to the eye on dissection, but by analogy it must exist. Insanity is the result, then, of physical impediment to the united and associated action of the brain, under the operation of the mind. And let me add, just here, that the MIND has a *separate, substantive existence, and a self-acting nature—that it is not the material product of chemical mutations of the brain or of any organic functions of that organ*; and hence, strictly speaking, it can never be deranged. Its instrument, the brain, may be diseased or defective, and the due relation between it and the senses destroyed, but the thinking principle—the SOUL—continues intact, but is manifested according to the machinery with which it is associated. This fact rests upon the clearest physiological proof. We infer, therefore, that this thinking principle is never diseased; that it exists in its full, though slumbering power, in the idiot, the demented, and the infant. Doubtless, it is the intuitive realization of this great physiological principle which animates the maternal heart, clinging with fondest affection to the mature idiot, or to the babe nestling in helplessness on her bosom; and the intelligent conception of it which supplies the physician, in his daily contact with the victims of complete and hopeless dementia, with a never failing source of mournful interest and a willing sympathy, which a more materialistic philosophy could never inspire.

Under this head also he touches upon the subject of consanguineous marriages, quoting from the tables of Dr. Bemiss, of Louisville, Ky. It is a subject that is attracting more of the attention due to it than heretofore. He also refers to the habit of opium eating which is so much more common in this country than would generally be supposed.



We quote the following extract from his remarks on the table relating to "education," as to "one familiar aspect" of the subject:

Waiving all metaphysical caviling as to whether the passions or emotions be distinct elements of the mind, properly so called, they still belong to mental processes, are more or less associated with acts of intellection, and are susceptible of education. The tendency of this age, it seems to me, is to give them undue play, especially in the woman, upon whom, under any circumstances, they are apt to exercise a dominant influence. In the fashionable parlance of the day, we are told to educate the heart as well as the head; which is sound enough philosophy where the proper discrimination is exercised, in estimating the comparative importance of these two vital organs. I rather suspect, however, if we educate the head alone, that the heart would progress, *pari passu*, in its supposed functions. I do not think I exaggerate if I say, that among the wealthier and better classes of society, more diligence is bestowed upon the development in youth, of the feelings and emotions, than of the intellect. I reason from observation, and from effects with which I am brought into daily contact in my intercourse with the insane. The philosophy of living, if I may so express it, seems to be founded on this modern principle. From the mimic discipline of the nursery, to the decrees of a criminal court; in the amusements of the people; in their intercourse, religion, manners, pursuits, opinions; and pervading, to some extent, even their industrial avocations, there is a very decided infusion of factitious sentimentalism. The passions or emotions are more early and strongly developed than reflection, comparison, and judgment, and unless intelligently controlled and directed in the beginning, can hardly, in maturer life, submit to intellectual subordination. With such persons, to feel is sufficient incentive to do; and the thinking faculties, because never cultivated, are always in abeyance.

There is a class of patients in our insane hospitals—and they are much more numerous now than in former years, before the refinement which wealth and civilization confers, had been attained—which painfully illustrate the truth of this statement. These unfortunate persons are only an exaggerated type of a large class of their more fortunate fellow-creatures, upon whom the restraints of an insane hospital have never been imposed. Their feelings culminate in the irresistible impulse to commit some flagrant impro-

priety—to appropriate their neighbor's goods, to fire his property, or even to take his life; or, in milder cases, to sacrifice their own virtue, to love or hate inordinately; to become deceitful, cruel, vulgar, in a word, morally perverted. They are poetically declared to be morally insane. It would be more charitable, I think, to say they are imbecile. It is really a difficult matter to determine to what amount of accountability they ought to be held for their acts.

The remedy for this great and growing evil, is a better system of education and discipline, on the principles above indicated. Let us have a generation of earnest, thinking men and women, not maudlin sentimentalists. Let that divine principle, which alone distinguishes us from the brute, and sees in itself the "Image of God," receive that care and development, of which, by the will of Creative Power, it was made susceptible.

XLIV. *St. Vincent's Institution for the Insane.* St. Louis, Mo.

A summary of statistics that has fallen under our eye shows for this Institution, number of patients January 1, 1867, 123—men 45, women 78: received during the year 144: discharged restored 55, improved 59, unimproved 15: died 18: remaining January 1, 1868, 120. Dr. J. K. Bandrey is the Attending Physician of this Institution, and "Sister" M. Julia, the Superior.

XLV. *Annual Statement of the Guardians for the Relief and Employment of the Poor of the City of Philadelphia.*

*Seventeenth Annual Report of the Insane Department of the Philadelphia Hospital.* January 1, 1868.

Dr. Richardson, who has charge of the Insane Department of this immense charity, reports number of patients in hospital January 1, 1867, 565—men 206, women 359: admitted during the year 370: discharged cured 98, improved 89, unimproved 47: died 68: not insane 10: remaining December 31, 1867, 623. A large proportion are chronic cases from elsewhere; this Institution being required to take all who present themselves. Out of the 935 under treatment the past year 552 were foreigners.



Dr. Richardson reports several improvements in the hospital arrangements. He suggests a different material for the wearing apparel of the insane from that used in the almshouse. He also speaks emphatically of the good effects of amusements, including dancing, and quotes Dr. Earle, of Northampton, on this subject.

XLVI. *Annual Report of the Commissioners of Emigration of the State of New York, for the year ending December 31, 1866.*

The number of alien emigrants landed at New York in 1866, was 233,418, nearly 40,000 more than in any year previous. Of these 68,047 were from Ireland; 106,716 from Germany; 36,186 from England, and 22,469 from other countries.

The chief physician of the State Emigrant Refuge and Hospital, Ward's Island, Dr. Geo. Ford, reports in the Insane Department 103 women and 80 men treated during the year: number at beginning of the year 74: admitted during the year 109: discharged cured 60: sent to Blackwell's Island, their time of five years expired, 7: transferred to other wards of the hospital in improved condition 34: died 5: remaining at end of year, men 27, women 50—77. The asylum for insane patients in this hospital was completed early in 1861. The Commissioners say:

The limited number of patients and their general uniformity of condition and circumstances of disease render less needed many of those arrangements for classification and other objects required in larger insane asylums with a great variety of patients.

It is, however, very desirable that a separate building at some distance should be erected for female patients, to render the separation of the sexes more perfect than it is at present.

This is among the objects for which an enlargement of the commutation fund is specially required.

XLVII. *Tenth Annual Report of the Medical Superintendent of the Provincial Hospital for the Insane, Halifax, Nova Scotia, for 1867.*

The Superintendent of this Institution, Dr. James R. De Wolf, reports number of patients January 1st, 1867, 157: admitted during the year 43: discharged recovered 19, improved 5, not improved 2: died 5: remaining December 31st, 1867, 169—men 87, women 82. The mortality rate is gratifyingly small. Admissions have been limited to the most urgent cases. Dr. De Wolf calls for the still further extension of the hospital already considerably enlarged, and says the present building will be again overcrowded before an extension could be finished, even if commenced at once.

Dr. De Wolf reports several gratifying donations and bequests recently made to the institution, the Hon. Hugh Bell having given his first year's salary as Mayor of Halifax, which is invested for the establishment of a library; and a Mr. John Brown having left a large legacy for the support of indigent patients. Edward Binney, Esq., has presented a fine piano for the convalescent ward. The three new wards in the wing and centre building completed in the autumn, have been respectively named after these three gentlemen. Several other minor improvements have been made; all the minutiae of what is called the "moral treatment," are well provided, and the institution seems to be in a very fair state of prosperity.

Dr. De Wolf expresses the common experience in his closing remarks:

The difficulties and embarrassments in conducting the affairs of an institution such as this, are known only to those who have undertaken their management.

On the one hand we have, it is true, the frequent expressions of heartfelt gratitude from many a recovered patient, than which



nothing can possibly be more delightfully cheering, and more steadily encouraging; but as an offset, we have, in common with other institutions of this class, to contend with very many most depressing discouragements from time to time, so that were it not for the kind inspiring sympathy of true-hearted friends, and the unabated interest of generous well-wishers, together with the constant cheering hope of doing good; were it not for these, one might unhesitatingly retire from the scene, devoutly thankful to be relieved.

XLVIII. *Sixth Annual Report of the Board of Inspectors of Asylums, Prisons, &c., (in the Dominion of Canada,) for the year 1866. Printed by order of the House of Commons. Ottawa.*

This document contains the several reports of Superintendents of Canadian Lunatic Asylums, which we will notice in succession. The report of this Board of Inspectors for 1867, is probably not yet published.

I. *Annual Report of the Provincial Lunatic Asylum, Toronto, for 1866.*

Dr. Workman reports number of patients remaining in the Chief Asylum and the University Branch, January 1, 1866, as 467—men 205, women 262: admitted during the year 64: discharged 30: died 23: transferred to Orillia 6: remaining January 1, 1867, 472.

Dr. Workman exhibits the rather remarkable fact that the number of admissions to this Institution has been yearly decreasing. In 1861 the admissions were 204, and the discharges 91. This year the admissions are but 64, and the discharges 30. The doctor assigns no reason for this in his report. He finds, too, that the discharges of male patients are in great disproportion to those of the women: this year as *nine* of the men to 21 of the women. The doctor connects this fact with some very earnest and extended remarks on the vice of masturbation as a cause of insanity, its alarming prev-

alence and increase, its contaminating influence upon others, the duty of teachers and clergy in regard to it. He recommends the wider circulation of such tracts as Dr. Chipley's "Warning to Fathers, Teachers and Young Men," of which a second edition was published in 1865 by a gentleman of Kentucky, for gratuitous distribution among the teachers of that State. Dr. Workman also recommends *totally distinct lodgment* and a different moral discipline for all patients addicted to this vice, in order to prevent the evil from spreading.

In relation to the mortality in this institution, Dr. Workman makes the following very suggestive remarks on the real causes of death, so often left obscure or uncertain:

Of the 19 deaths in the Chief Asylum, 9 resulted from phthisis, only two of which were of the *manifest* form. The other 7 were defective in the usual prominent symptoms of pulmonary consumption, as cough, expectorations, hectic fever and sweatings, &c., &c.; yet in all, the lungs were thoroughly destroyed by tubercular disorganization. Nothing more clearly convinces me of the general trivial value of asylum statistics of mortality, unbased on *post mortem* examination, than the inspection of the various tables appropriated to this subject, in nearly all the asylums of this country. In one of the latest reports received by me from an American asylum, I observe that out of a total mortality of 33, only two deaths are ascribed to phthisis pulmonalis, or pulmonary consumption; but 13 are ascribed to "exhaustion from chronic mania." Had *post mortem* examinations been held, as I feel assured they were not, in all probability the whole of these 13 cases would have been found to belong to the class which I designate latent phthisis; and very probably a few, placed under other heads, would also have been added. Until American asylum figures are based on clearly ascertained facts, it would be highly advisable that fewer were published. I can imagine nothing better calculated to establish or perpetuate error, than the publication of statistics, the elements of which have been merely guesswork, and I have yet to be convinced that in fully three-fourths of all the wearisome tables which fill up so much of our asylum reports, both in the new world and the old, the figures shewn should not be regarded in this light.



Although we have several times published a description of the disease, general paresis, yet we are sure our readers will be glad to have us put on permanent record the following very clear, correct and comprehensive observations which Dr. Workman gives us in this report, as the result of a long experience combined with high scientific culture :

This disease, in Canada, and I believe in the United States also, is either more common, or it now attracts more attention, and is more accurately diagnosed than formerly. Those members of the profession, who have had opportunities of seeing the disease, or who have taken pains to acquire from books a correct knowledge of its characteristics, seldom fail to identify it, even in its earliest or incubative stage; but it is also a fact, which it would be improper to suppress, that not a few of the general practitioners of the Province, seem not to be acquainted with it. Considering the comparative paucity of the entire number of cases presented, it is not to be wondered at that the disease is not universally understood. The name by which it was, until recently known, *general paralysis*, was indeed well calculated to lead to misconception; for at the commencement, which is the period in which it is usually seen outside of asylums, the patient not only is *apparently* free from any paralytic affection, but generally appears more active, lively, and robust, and at the same time shows more mental energy than ever in his life before. Perhaps, too, the most constant characteristic, indeed, I would say *pathognomonic* symptom of the malady, a keen or even ravenous appetite, tends in conjunction with the general apparent good health present, to lead still farther towards error. This keenness of appetite does not appear to be abnormal, for it is unaccompanied by any disturbance or disorder of the digestive function, and nutrition goes on well. The patient eats heartily, and appears to benefit by his eating. He declares he never felt so well in his life. His friends think so too, but they have found that this improved bodily condition is unfortunately associated with irregularities of temper, transient defects of intellect, and strange moral perversions, which have begun to cause them serious apprehensions. The earliest paralytic, or more properly speaking paretic, symptom may even now be recognizable, though very commonly not observed; I mean the defective articulation of speech, which is perceptible chiefly in the pronunciation

of the labial and dental consonants; for the accurate formation of which an exact direction of the tip of the tongue to the anterior parts is necessary. This defect in the speech is not unfrequently assigned by those ignorant of the truth, to drunken habit; but most unjustly and sometimes most cruelly. It arises from impairment of the lateral muscles of the tongue, or of the motor nerves supplying them. The muscles on the two sides do not act co-ordinately, or those on the affected side are overpowered by those on the opposite side, and in consequence the tip of the tongue fails to hit the central point, to which it should be applied. The speech is therefore thickened, or blunted. The symptom goes on constantly augmenting, until in the last stage of the disease, speech is almost wholly or altogether obliterated. The most usual form of delusion manifested by paretic patients, is that of an exaggerated appreciation of their own wealth, or some other qualification on which they may chance to have desired distinction. The extent and the extreme absurdity of some of their delusions, are often, in the more advanced periods of the disease, almost beyond all credence, and to one who has watched many of these people throughout the sad career which they all run, depiction of details is a task too heart-sickening to be entered upon but with the utmost reluctance; I therefore abstain from those illustrations, which though they might lend attraction to a report, with some classes of readers, never fail to give pain to others, who bring the picture home to themselves, and see in it only a true likeness of what they may themselves, under the inscrutable decrees of Providence, yet become. As it is usually only in the earlier stages of the disease, that it falls under the notice of the general practitioner, and as the diagnostic symptoms in this period are sometimes rather obscure, or are so far overtopped by the more striking mental phenomena, which appear to accord with those of insanity in general, as depicted sometimes too glowingly in works on this subject, or in general medical treatises, it may not be improper here to draw attention to the distinguishing characteristics by which it is almost invariably indicated. I believe I shall be generally sustained by those who have had large experience in the treatment of insanity, in the opinion that general paresis is a disease *sui generis*. It is, in the physical disorder accompanying it, quite different from any other form of insanity, and those most familiar with its mental manifestations, will hardly dissent from the assertion, that they are scarcely less distinctive. The *post mortem* revelations, although by no means uniform, are nevertheless, over their wide extent, far



different from those shewn in the bodies of other classes of patients. After other forms of insanity, we may discover various cerebral lesions, or they may, so far as our means of detection extend, be totally wanting. This uncertainty does not obtain in general paresis; in it, the brain, or the spinal cord, very often both, are found to have been diseased, and the diseased condition of these vital parts has been laid at the foundation of the malady, and has given form and feature to all its manifestations, both mental and corporeal. Other forms of insanity may be merely sympathetic or reflex, the brain being only secondarily or resultively affected. This is never the case in general paresis, and not only is the brain or the spinal cord always diseased, but almost invariably these are the only parts which are diseased. The organs of the chest and abdomen are, unless accidentally, always sound. This is a condition of the system rarely found to obtain in other forms of insanity. In these the brain indeed may be found undiseased, but absence of disease here will certainly be unassociated with exemption from it elsewhere. It is the exemption from disease in other parts, but especially in the digestive organs, which so usually leads the general practitioner to the formation, and too often to the pronouncement, of an erroneous prognosis. Nor in the face of the fact, that the patient is almost invariably free from headache, or at least asserts that he is so, is it wonderful that the diagnosis arrived at, should fail to involve the idea of any formidable brain disease. Yet the absence, not only of pain in the head, but also of every other sort of pain, and that throughout the entire subsequent progress of the disease, may be held as one of the most reliable diagnostic marks of general paresis. I would not assert that pain is absent in the incubative stage of the disease; but I can say that I have never met with it in any general paretic that has come under my care. If we have this absence of pain, combined with a keen or voracious appetite, a trivial impairment of the articulation of speech, such as I have already spoken of, and incipient, or perhaps fully developed phenomena of mental delusion, but especially in relation to money or property, there can hardly be a doubt that the case is one of *general paresis*.

If the case has advanced beyond these limits, and the patient has had one or more apoplectiform seizures, out of which he, perhaps, very unexpectedly, speedily appeared to recover, and subsequently it has been observed that his speech has become more blunted, or, perhaps, only now for the first time has been noticed to be so; and if a change of gait is observed—not, indeed,

amounting to paralysis of one limb, but very clearly indicating impaired muscular power in it—then is there no longer room for doubt; the case is one of *general paresis*, and the patient will die.

When he will die is a question of great uncertainty; he may go off in his next apoplectiform seizure, or he may survive a dozen of such seizures; or, indeed, he may not have one at all.

It is unnecessary here to enter more largely into details. The disease may—and no doubt it does—present variety in its earlier or its later stages. *General paretics*, for example, are almost all distinguished by their self-complacency, and by their entire satisfaction with all their surroundings; yet, on the other hand, exceptional instances of the contrary are met with. It is, however, enough, on this occasion, to draw attention to the most usual early manifestations of the disease, the careful observance of which will, in nineteen cases out of every twenty, ensure the formation of a correct diagnosis. It has been too often my painful duty to give to the friends of *general paretics* the first intimation they have received of the real character of the malady under which the patients were laboring, and sometimes this intimation has been so antithetic to the opinion previously expressed to them by others, as to render its communication very disagreeable and embarrassing. Unfortunately, not in a single instance hitherto, throughout nearly fourteen years, have I been wrong in my prognosis.

But he immediately after enters upon a subject, the provision for the chronic insane, on which we are sorry to say his views are not in harmony with our own, or with those of the great body of experienced superintendents. We do not intend to re-enter upon a question which has been thoroughly discussed in our pages. We shall only observe that if the system of branch asylums, or secondary institutions be the only method in Canada of making each locality “pay for the support of its own insane poor,” it is an argument that cannot apply to us here in New York, where each county is made responsible. The same principle will have to be acted upon in Canada, and if these “secondary” institutions are established by “county unions,” as Dr. Workman proposes, they will either become good lunatic *hospitals*, or mere



mad-house receptacles. There can be no halting place between.

II. *Report of the Proprietors of the Beauport Lunatic Asylum for 1866.*

This is a proprietary Institution under Dr. J. E. I. Landry, and Dr. F. G. Roy. Their house surgeon, Dr. Pickup, reports number of patients January 1, 1866, 557—men 254, women 303: admitted during the year 153: discharged recovered 37, improved 11, not improved 7: died 52: remaining January 1, 1867, 603—men 285, women 318.

Many of the inmates are pauper patients sent from the gaols after insanity had become chronic. Dr. Pickup mentions among the admissions of 1866, one woman 66 years of age who had been 15 years in prison. Seven of the admissions were between 60 and 70 years of age, seven more between 70 and 80, and one was of the age of 82.

Drs. Landry and Roy attempt to justify their arrangement of dormitories or “cribs” back to back, along the middle of a large apartment, which arrangement had been faulted by the Board of Inspectors.

They say on this subject

The double row of cribs, to the arrangement of which you appear to object, is placed in the centre of a vast department (103x40 feet.) A wide passage surrounds the cribs, and serves as a recreation room during the day, as the cribs serve as sleeping rooms during the night. If these cribs were placed along the walls they would intercept the light, and the central passage, which the patients would occupy during the day, would be more or less dark. These cribs, to the number of 69, in a house capable of holding 350 beds, at least, are appropriated to the use of filthy, turbulent and dangerous patients. If they had been placed along the walls, with windows opening within them, was it not possible that these patients, who destroy everything that cannot resist their strength—often increased tenfold in an attack of nervous excitement—

might, in a moment of madness, break the windows, with the risk of, perhaps, seriously injuring themselves; or, if it were in winter, and in the middle of the night, of being frozen, or of exposing their neighbors. It will be said that we could have taken steps to prevent these accidents. We do not hesitate to admit that the thing was possible, but not without incurring a heavy expenditure, which our means would not have warranted.

They, however, appear to have taken all proper measures to have the plans submitted to the examination of the government before the buildings were erected, but without success. The arrangement seems an undesirable one, except for very few and special cases, though doubtless the heating and ventilation may be somewhat more economically managed on this plan. The proprietors have made many improvements, and doubled the capacity of the Institution within the past three years. They say that though they now have 600 patients there is abundant room for 150 more.

They also complain of what is experienced elsewhere, the difficulty of getting information of the antecedents of pauper patients sent from the prisons. In so large a number this circumstance almost renders useless the attempt to make accurate statistical tables.

III. *Annual Report of the Provincial Lunatic Asylum, L. C., at St. John's, C. E., for the year 1866.*

Dr. Henry Howard, Superintendent, reports number of patients January 1, 1866, at 77: admitted 29: discharged 13: died 11: remaining January 1, 1867, 82.

Dr. Howard speaks of the disparity in provision for the insane between Lower Canada and Upper. He says: "While Upper Canada has five lunatic asylums, Lower Canada has only Beauport and the miserable place under my charge."

Dr. Howard also enters a strong protest against Dr. Workman's theory of "Secondary Asylums," as too



complicated and expensive, and declares against the justice of making each municipality support its own idiots and incurables.

The system which he recommends for Lower Canada he describes as follows :

What is the most simple system ? A large building, or buildings, erected on the most approved sanitary plans, capable of holding a certain number of patients, say four or six hundred, with sufficient space to have a perfect system of classification. In this building there should be an entire separation between males and females, between acute and chronic cases, and between fools and lunatics.

This asylum should be under the complete and entire control of the medical superintendent, said superintendent responsible to the Government for the management of the Institution. Nothing could be more simple than such a plan, should the Governor of the Province, or any member of the Government wish, at any time, to see the management of the Institution, a couple of hours of his time would be all that would be necessary. He would see the management of the male, the female, the acute and chronic, the curable and incurable, the lunatic proper and the born idiot. To accomplish which, under Dr. Workman's system, he would have to pay a visit to every municipality in the Province. And here, I would add, that nothing would tend more to the good management of such an establishment, than an occasional visit from the Governor or a member of the Government. It would be an encouragement to the medical superintendent, who could point out his wants and requirements, better in ten minutes, than if he was writing for a week. Moreover, it would be a security to the country, and a gratification to the friends of the poor lunatic.

#### IV. *Annual Report of the Orillia Branch Lunatic Asylum for 1866.*

Dr. J. Ardagh, Medical Superintendent of this Institution, reports number of patients January 1, 1866, as 121: admitted 10: discharged cured 1, improved 1: died 8: remaining January 1, 1867, 121—men 48, women 73. Out of the 176 admissions since the opening

of this asylum, 150 were transfers from the Provincial Asylum, Toronto, leaving 26 primary admissions.

There is nothing in this report calling for special remark.

V. *Annual Report of the Malden Lunatic Asylum at Amherstburg, for the year 1866.* C. W.

Dr. Fisher reports in this Institution January 1, 1866, 232: admitted during the year 23: discharged 13: eloped 1: died 6: remaining December 31, 1866, 235. Two years have passed with only one death in the female department, and that from old age. The buildings are so full that new cases are received only as vacancies occur. During the year but 23 out of 46 applications were admitted. Dr. Fisher complains that the buildings are inadequate for proper classification, and discusses the question whether Amherstburg is so situated as to be the proper location for an asylum for the seven western counties of Ontario. He inclines to the plan of erecting a new first class asylum at London, retaining that at Amherstburg as a comfortable home for the quiet incurable insane, though even of such cases he thinks the average number should not exceed 100 of each sex.

VI. *Report of the Rockwood Criminal Lunatic Asylum for 1866.* Kingston, C. W.

Dr. Litchfield reports number of patients in the two asylums, (the new and the temporary,) on the 31st December, 1865, at 116: admitted during the year 35: discharged cured and relieved 13: died 7: remaining December 31, 1866, men in the new asylum at Rockwood 102: women in the temporary asylum 29.

There is some talk of completing this asylum and converting it into a general asylum for the eastern counties of Upper Canada. Dr. Litchfield strongly



favours this project, and says that a majority of his patients are cases where a criminal charge (such as that of *assault*, &c.,) has been *tacked* on by the friends for the sake of getting them into jail, (for lack of bail,) from whence they are transferred to the asylum. This only shows the importance of proximity and accessibility to lunatic asylums, as this must be done only to avoid the necessity of sending a greater distance.

Dr. Litchfield goes further and claims that equally good provision could be made for the criminal insane in the general asylum, and even labors to show that there is really no great objection to their association with other classes of the insane. In this country this question has been decided in favor of their total separation, not so much with reference to the effect on the criminal insane as upon those never charged with crime. Of course Lord Derby's criticism on the expression "criminal lunatic" is theoretically correct, but all that is implied by it is the commission of some act which would incur the penalty of the law unless suspended by insanity. Insanity is something which does not meet or traverse the charge of perpetration, but which being established, *averts or suspends the penalty*. Therefore in common parlance, criminal lunatic is used to designate one who has committed an offence which is punishable in a responsible person; the question of responsibility being entirely posterior to the question of the fact.

But what Dr. Litchfield says on the subject of the classification of the criminal insane is so interesting and suggestive, that though not agreeing with the object he has in view, we copy it for the perusal of our readers.

The importance of a judicious system of classification is quite as great in reference to the criminal as it is to the ordinary lunatic. But I cannot altogether agree with the high authority already

quoted, that the classification should be made to depend upon the gravity or the character of the crime committed by the insane offender. In an old English drama, written by Dekkar, in the 16th century, there is a graphic description of the inmates of the Bedlam of that day, which deserves, from its truthfulness, to be preserved. A party of gallants, armed with rapiers—as was the fashion of the period—visit the hospital, and one of them, addressing the superintendent, says—

“Pray, may we see  
Some of those wretched souls  
That here are in your keeping?”

*Friar Anselmo (in charge of Bethlehem:)*— “Yes, you shall;  
But, gentlemen, I must disarm you.  
There are of madmen as there are of tame—  
All humored not alike; we have here some,  
So apish and fantastic, play with a feather;  
And tho’ ’twould grieve a soul to see God’s image  
So blemished and defaced, yet do they act  
Such antics and such pretty lunacies,  
That spite of sorrow, they will make you smile.  
Others, again, we have like hungry lions,  
Fierce as wild bulls, untamable as flies:  
And these have oftentimes, from strangers’ sides,  
Snatched rapiers suddenly, and done much harm;  
Whom, if you’ll see you must be weaponless.”

In this extract a foundation is indicated for the proper classification of the insane. It should be founded upon the form and character of the disease, not upon the gravity of the offence committed. If all the insane, who have committed murder, which is the highest crime known to the law, were collected together in one lunatic gaol, as the building first designed for them was named, it would be a bad classification, because there would be nothing to change the current of their thoughts. Dr. Bucknill, formerly Medical Superintendent of the Devon County Asylum, and now a Commissioner in Lunacy, in a work on the proper classification and treatment of criminal lunatics, remarks “that the most criminally disposed lunatics are not the so-called criminal lunatics, and that the majority of the latter are as tractable and harmless as the average of insane persons to whom the stigma of crime has never been attached;” and that the criminal lunatics, or lunatic criminals, whose designation excites so much apprehension, “are often the most quiet, docile and inoffensive persons in these establishments.” My experience on this point entirely accords with that of Dr.



Bucknill; and, like him, I will crave permission to speak for those who cannot speak for themselves. Many of the cases among the criminal insane, professionally considered, are the most interesting to the physician engaged in this department of practice, and whatever may have been the offences committed by them, they ought to be treated with the same consideration as ordinary patients. A glance at any asylum case book will, I think, give confirmation to these views. I have been in the habit of referring to cases under my own care, to prepare students for dealing with them in practice, in my lectures on Forensic and State Medicine at Queen's University; and a short reference to some of these cases will, perhaps, best illustrate my meaning:—One patient, a young man, of gentle and affectionate temperament, and of good moral and religious training, came to this country with a mother and two sisters—to whom he was devotedly attached. His sisters married, and he was light of heart and hopeful of the future. One small—but dark—cloud lowered over him. He had the hereditary taint of insanity. (When he was three years old, his father, in a fit of recurrent mania, hung himself on a tree in Windsor Park, within view of the battlements of the Castle.) In process of time he became restless, irritable and uneasy, and began to have religious delusions. He loved his mother very dearly, and conceived the idea that she was too good to live, and ought to be an angel in heaven. After this delusion had taken possession of his mind, he watched patiently for an opportunity—cut his mother's throat; and, when she died, triumphed in the belief that she had been translated to heaven; and, by his instrumentality, had become an angel before the throne of God. This young man was manifestly insane, and was acquitted of the crime on the plea of insanity. He became an inmate of the Criminal Lunatic Asylum, in December, 1864. When the religious exultation had subsided, he became rapidly convalescent. He remained quite well for more than a year. He was cleanly and neat, industrious, civil and obliging. He took charge of one of the dining-rooms, attended to the wants of thirty of his fellow-patients, decorated his dining-hall with great care, so that it became a model to the other dining-halls; embellished it with flowers and birds, and having taste and an excellent ear for music, procured a concertina and organized a singing class, leading and arranging the music for our religious services. During all this time he was in full possession of his reason. He deeply deplored the delusions which resulted in the death of his mother, and sought by an industrious and useful life

to make atonement for his involuntary offense. But his disease will probably recur, and possibly with it the homicidal propensity, and it may be a duty to society to keep this young man in a place of safety for the remainder of his life. But is it also necessary to thrust him back from association with his fellow-patients, to isolate him in a murderer's ward, to destroy his usefulness in the sphere in which he is now placed, to deprive him of the last vestige of hope, and to inscribe over the part of the institution in which he and such as he would be incarcerated, the doom recorded by Dante over the portals of the Inferno, "*All hope abandon, ye who enter here.*" I cannot think it would be necessary, for we inflict no punishment on the sane criminal, which would be comparable to this punishment of the insane criminal. "*Men try the crime, the motive Heaven will judge.*" But let us glance at another case.

A young farmer, of German descent, of moral, correct and religious character; a member of a peculiar sect of Christians, with a severe system of church discipline, met with an injury to his head which resulted in a depression of the outer table of the skull. After the accident he began to show signs of mental aberration. He became more absorbed than ever in his religious duties. He contracted the delusion that his wife was giving too much attention to her young child. That she was periling her own salvation by making an idol of her child; and to save his wife's soul he determined to remove the idol from her. In his long lucid intervals he has spoken of the struggle in his own mind in regard to this delusion, but he fought against it in vain. He was overpowered by the feeling that his wife's soul must be saved at any sacrifice. He took the little child with him to the lake, upon whose banks his farm was situated, walked in with it and held it under the water in spite of its struggles until it was drowned. This man is still subject to recurring attacks of melancholy mania, but he rallies quickly and for intervals of many months' duration, is one of the most useful men about the institution and its grounds. He is a good carpenter and an excellent gardener. He builds our out-houses and plants and grafts our trees. In the winter he knits and has sent specimens of his work to the exhibitions for which he has taken prizes, and recently by his own means he has procured a knitting machine, which he has taught himself to work from the printed directions. He makes with this machine a pair of men's socks in thirty minutes, and is rapidly fabricating for the asylum inmates a supply of these necessary articles, and of woolen under-clothing, which will be cheaper in price and more durable in



texture than any we can purchase. This man, like the preceding one, will probably be the inmate for life of an asylum. In the one case, by the inscrutable will of the Creator, the seeds of homicidal insanity are implanted in the offspring. In the other, an accident superinduces the attack. But although under these overpowering influences the insane men have taken, in the one case, the life of the parent and the other the child, yet they can hardly be classed with vicious and incorrigible criminals, who from malice aforethought, and from base and unworthy motives, plan and commit cruel and deliberate murder.

We have also the case, well known to your Board, of the patient who, for many years, has acted as the asylum cook. He has served both in the army and the navy, and has acquired habits of cleanliness, regularity and precision. He does the cooking for 110 male inmates of the asylum, at a stove not larger than a small ship's caboose and in the unfinished kitchen of the new asylum. The man, the kitchen and the utensils are all patterns of cleanliness and order. The meals are served with the utmost regularity. I do not know where it would be possible to get paid labor to execute the work so well. This man while in the army and navy was very intemperate; all his trouble at this period of his life arose from his intemperate habits. When under these influences, in a moment of irritation, being jeered and annoyed by a comrade, he took up his loaded musket and shot him. A commission *de lunatico inquirendo* was nominated to investigate the case: he was pronounced insane and sent here as a criminal lunatic. During his long incarceration of twenty years in the penitentiary and asylum, he has performed an amount of work of great value to these institutions. He is now upwards of 60 years of age. He rises for the performance of his duties at four o'clock every morning. The separate meals are prepared in readiness to be served by the insane attendants upon the insane inmates, and never once have I had occasion to complain of irregularities in the service assigned to him. He has insane delusions, but they do not interfere with the performance of his duties. He has the incessant hankering after drink, but as he cannot indulge it in the asylum, it does not produce the evil effects which resulted in his early life, and his value to the Institution in this one department cannot well be overrated. Another analogous case is that of the patient who takes charge of all the private offices, who as one part of his daily duty lights the fires, cleans the rooms and keeps them in order. But this is a very small part of the service he performs. He makes shoes and clothes,

and undertakes nothing that he cannot do well. He is the most reliable patient I have in the asylum, and is the most competent attendant I know of upon the sick inmates. If I have a case difficult and delicate in its management, I turn instinctively to this man. He watches over the invalid, attends to and soothes his last moments, and performs the last offices with a decency and propriety I have never seen excelled. And what was this man's crime? The very greatest known to the law. He quarrelled with his brother-in-law while both were excited by drink, and struck him with the shoemaker's knife with which he was working, a blow which deprived him of life. He was tried and convicted and sent to the penitentiary for life. In the penitentiary he refused to speak, or to work, or to eat, or to comply with the rules and the discipline of the institution; was suspected of simulating insanity, and was subjected to low diet and the shower bath, and was subsequently ordered to receive two dozen lashes. After receiving one dozen he fainted, and the late surgeon to the penitentiary told me it was with difficulty he was restored to animation. I was consulted about the case and had no hesitation in arriving at the conclusion that he was a proper subject for the asylum. He had then been fasting for thirteen days, except in regard to such food as had been forced upon him with the stomach pump, and I do not think I ever saw such a wreck of humanity as this case presented. His general health gradually improved in the asylum, but for five years he never uttered a word. An entry in my case book, made on the 12th April, 1856, nine months after his transfer to the asylum, records the progress of the case:—"This patient has gone on improving and is one of the most tractable patients we have, doing everything but speak. Treat him well and he will work cheerfully to the very utmost extent of his strength; such cases may die under harsh treatment, and by voluntary suicide in refusing food, but I never knew such a case improved by it. If his bodily health was restored to his shattered constitution, I think he might be reported fit for any kind of work, but I apprehend his delusions will remain." My *diagnosis* in this case was correct, and this apparently hopeless and helpless patient has performed an amount of work about the asylum, and for the insane during the last ten years, greater than any other inmate to whom I can refer. I might go on collating from my case book evidence, as the author I have referred to has done in the published series of cases to which he confidently refers, "as proof that violence from criminal lunatics is at least not more to be apprehended than it is from the ordinary run of lunatics." If the modern psychologist meets with more success in the treat-



ment of his patients than his predecessors in the practice did, it is because he studies minutely the history of every case, the peculiar features of the malady, and the temper and disposition of the individual, and in doing so acquires the confidence of the patient, and is better qualified to treat the case and to determine the best way of classifying each inmate of the asylum.

The four cases to which I have made rapid reference, have been selected because each of the patients has committed the highest offence in the criminal calendar. And yet the value of their services to the Institution cannot well be questioned. One of them cooks all the food required for the male inmates of the asylum, another supplies it to those who cannot serve themselves, the third fabricates the warm clothing required to keep them in health, and the fourth nurses them tenderly in sickness, and closes their eyes reverentially when they die. I might refer to other cases of criminal lunatics charged with minor offences, whose services are of much value in the Institution, but I have no desire to strain the argument. I have at all times held the opinion, that as men are gregarious animals, always desirous of going in flocks or herds, it would be a bitter addition to any punishment inflicted, to shut them out from association with their fellow men. This is the view taken by Mr. Commissioner Hood, who says in his work on criminal lunacy, "if the object be to cure the afflicted lunatic, whatever offence he may have committed, his convalescence will depend very much upon his moral treatment, and if he be condemned as I have already stated, to be associated with criminals who have committed equal or perhaps greater crimes than himself, what chance can there be of his recovery?" "I have carefully watched," says Dr. Bucknill, while Superintendent of the Devon Asylum, "to detect any repugnance or unfriendly feeling among the inmates of this establishment towards their fellow patients, who were well known to have committed offences against the law, and have not only failed to do so, but have heard expressions of sympathy and pity." He adds, "The superintendents of other asylums with whom I have communicated, have, in reply to my inquiries, made the same statement, and I am therefore induced to suggest that the association of criminal with non-criminal lunatics, should be left, under the approbation of the commissioners, to the discretion of the superintendents of asylums; this would be far more humane and more in accordance with the spirit of the age than isolating them as a class, and leaving them to prey mutually upon their morbid associations, which cannot fail to aggravate the disease and render it perhaps incurable."

*Lectures on Clinical Medicine*, by A. Trousseau. Translated by P. VICTOR BAZIRE, M. D. New Sydenham Society Publications for 1868: Vol. 1, pp. 712.

The value of every contribution of the late Prof. Trousseau to the literature of clinical medicine, is too well known and generally recognized to require any special analysis of the various chapters contained in the present volume. But as a whole, its dedication to the field of nervous diseases, entitles it to the deepest consideration of the psychologist not less than to that of the general practitioner. Since Romberg gave his famous treatise on the neuroses to the world, no work has appeared which is better calculated to cast light upon the interpretation of deranged innervation; for although Prof. Trousseau does not descend into the most minute investigations of nerve-pathology, and is, in this particular, much less exhaustive than Romberg, Vander Kolk, Brown Sequard and many others whom we might mention, yet, in combining the positive instruction of the clinique with the *rationale* of the causation of disease, he has furnished the general practitioner with the best results of a life-long experience on subjects which, from their necessarily intricate character, had fallen into traditional forms of interpretation, with the inevitable consequences of routine treatment. No one who looks back upon an experience of twenty years of practice can fail to see in the lectures on "Venesection in Cerebral Hemorrhage and Apoplexy," and "On Apoplectiform Cerebral Congestion, and its Relations to Epilepsy and Eclampsia," how great a stride has been made by pathology in the true interpretation of cerebral lesions—and if the success following any form of treatment be the best test of its rational character, then we must believe that Trousseau has explored the field of the neuroses and sounded their depths more practically



than any of his predecessors. For, much as we must admire that prying eye of investigation with which cellular pathology has read the secrets of interstitial metamorphoses, and descended into the mysterious domain where vitality first allies itself to plastic transformations of matter into organization, still, we cannot accord so high a place to the simple pathologist as to him, who, with a less microscopic vision, reads and interprets the strong lines of demarcation between physiological aberration and true disease, in such a way as to enable us to prescribe with some probabilities of success. The great merit of all Trousseau's teachings is their applicability to existing necessities. With all his enthusiasm and *élan* he is never speculative or conjectural in his diagnosis, but founds his opinion upon those general principles in pathology which are next door to axiomatic. It is for these reasons that we have enjoyed with unabated satisfaction the perusal of these lectures, and acknowledging their inestimable value to all students of the neuroses, we take pleasure in this opportunity of again offering this passing tribute to a master mind, whose mission upon earth was accomplished in the fullest measure to which genius aided by the lights of science can attain.

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*Plastics. A new classification and a brief exposition of Plastic Surgery.* By DAVID PRINCE, M. D. Philadelphia: Lindsay & Blackiston. 1868. 8 vo., pp. 94.

The turning point in operative surgery, to which the labors of all preceeding ages have been tending, since Paré began his first essays in conservative surgery, is that of diminishing the field of actual operation, by aiding and permitting nature to restore the integrity of parts with as little loss of substance by artificial inter-

ference as possible. The recent name of *Plastic Surgery*, is one which expresses perhaps the greatest triumph of art and science combined, over disease, that the sphere of medicine has ever witnessed. It is here, in fact, that will be found the consummation of all those triumphs which Hunter, and Bell, and Cooper, Larrey, and Dupuytren, and Civiale have given to the world. Dr. Prince, in the small volume now before us, has attempted to give a classification of each division of this most interesting field of practice, and in doing so has discharged himself of the task in a manner which is as creditable to his good taste and professional attainments as it will be useful to those who may be called upon to apply the *tactus eruditus*, in saving a human being from those sad deformities consequent upon various surgical diseases, and which are so often sources of permanent unhappiness to those deprived of symmetrical members.

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*Sanitary Institutions during the Austro-Prussian-Italian Conflict. Conferences of the International Societies of Relief for Wounded Soldiers. An Essay on Ambulance Wagons, &c., &c.* By THOMAS W. EVANS, M. D. Paris: 1868. 8 vo., pp. 234.

The success attendant upon the efforts of our Sanitary Commission during the war of the rebellion, gave rise to the Convention of 1864, at Geneva, where most of the European powers adopted a system of sanitary relief for the wounded on battle-fields, predicated upon the entire neutrality of those engaged in rendering such humane services. Not two years had elapsed when the results of these bountiful provisions were reaped in both the Prussian and Italian wars, in the most thorough alleviation of the inevitable sufferings incident to great conflicts which Europe had yet witnessed. As



the foreign historian of our Sanitary Commission, no one was better qualified than Dr. Evans, to undertake the narrative of similar efforts on the part of European governments, and the subject is treated in a way to render it of great popular interest to all, who, in our own country followed with their active sympathies the sad vicissitudes of war. The volume of Dr. Evans, written in a graceful, unvarnished style, is a record of the good example set by our own brave countrywomen to the great warlike powers of the world.

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*Special Report on the present State of Education in the United States and other Countries, and on Compulsory Instruction.* By VICTOR M. RICE, Superintendent of Public Instruction of the State of New York. Albany: 1867. 8vo., pp. 253.

This most interesting report presents an epitome of the modes of instruction adopted by European governments, in order to secure the general education of children. And, aside from the very thorough manner in which Mr. Rice has discharged his duties in this historical volume, it is to us of chief importance, as showing the growing tendency everywhere exhibited, to make instruction compulsory during a portion of every child's life-time, and as the best means of securing an intelligent and patriotic population, wherever principles of civil liberty are expressed, not less in the forms of government, than in the methods established to perpetuate them.

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*A New Process for Preparing Meat for Weak Stomachs.* By W. MARCET, M. D. London: J. Churchill & Sons. 1867. 8 vo., pp. 27.

This little pamphlet treats of the practical application of the artificial digestion of animal food in the labora-

tory, and its reduction to a condition of *albuminose*, to the wants of dyspeptics. While there are undoubted conditions in which such food might be acceptable as a *succedaneum*, we are inclined to believe that in the majority of instances, it is better to allow the patient to perform even that stage of digestion for himself, by administering *pepsin* in some of its forms directly after meals. Physiologists know that the first stage of digestion is the most important, and practically determines the character of all subsequent ones, and it is best, as we think, that this should be done in the alimentary canal. We do not doubt the *chemical* value of Dr. Marcet's process, only, we believe that the element of vitality must be considered in all digestive processes, and that, we cannot find outside of the body.

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## S U M M A R Y .

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THORACIC ANEURISM AND DEMENTIA: BY WM. MOORE, M. D.—In a late number of the Dublin Quarterly Journal of Medical Science, we find reported three cases of thoracic aneurism combined with dementia, which appear to present some novel relations between lesions of the central circulation and those of the brain. The length of the cases forbids our quoting them entire, and we can only give the results of the autopsies, as showing the points whence were radiated the disastrous influences terminating in dementia. In the first case, says Dr. Moore:

From the situation of the aneurism in this case, it might be reasonable to infer that the carotid supply was interfered with, and, in addition, that reflected nervous irritation may have played an



important part in the production of the psychological phenomena present; but as the brain was not examined I am not disposed to indulge in these hypotheses, but to confine myself to what we did find, viz: an intra-thoracic aneurism, associated with dementia.

It is needless to say that we regret so important an organ as the brain should have been overlooked, in a case where possibly, so much of the reciprocal influences of a disordered circulation upon it could have been observed and recorded—for in this case there was *mania*, with general *incoherence accompanying* aneurism of the transverse portion of the thoracic aorta.

In the second case there was difficulty of speech—imperfection of mental powers; loss of memory; paralysis of sensation and motion; and the autopsy revealed large thoracic aneurism, with left carotid artery impervious from its origin to its bifurcation; *atrophy of the left hemisphere of the brain*. “On examining the cranial cavity the arachnoid was slightly thickened and opaque, and a slight amount of sub-arachnoid effusion was found; but what was particularly interesting, the left hemisphere of the brain was smaller than the right, and a small depression or cicatrix existed on its surface on the inner and anterior part of the anterior lobe,” &c.

This case would seem to support Dr. Broca's theory of the organic seat of aphasia, though there was in the above instance only *difficulty*, and not *loss* of speech.

In the third case, there was complete temporary insensibility, dementia, delirium and fugitive paralysis, and the autopsy showed an enormous thoracic aneurism, empty carotids, and general atrophy of brain. In conclusion, Dr. Moore says:

My object in adducing these cases is to show that “mental diseases,” so called, may be entailed by comparatively remote physical conditions, and hence arises the importance of taking the widest range in approaching the consideration of these affections. We

are familiar with mental phenomena termed "reflex," when they are found to coexist with uterine, genito-urinary or other abdominal irritations, but the changes which these causes bring about in the nutrition of the brain are difficult to define. Now, whilst our knowledge of psychology as yet is not so far advanced as to enable us to specify in all cases from certain symptoms, certain pathological changes, still if in a case of dementia we can detect a latent aneurism or intra-thoracic tumor which, from its situation, it is to be presumed, would cause obstruction of the cerebral supply and consequent atrophy of the brain, it is needless to add, how materially such a discovery would affect the prognosis and treatment of such a case; experience having shown us that dementia attendant on a chronic atrophic condition of the brain is of most unfavorable prognosis, whilst insanity in more acute and subacute forms, where no such positive evidence of persistent diminished nutrition of the brain is present, may be regarded as relatively hopeful and capable of cure.

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IRON ROD PROJECTED THROUGH HEAD.—RECOVERY.—Dr. M. Jewett, of Middlebury, Ohio, records (*Western Journal of Medicine*, March, 1868,) the case of a Frenchman 27 years of age, who, while blasting coal, was struck by the blasting barrel, (a five-eighth inch gas pipe four feet long,) near the external angle of the superciliary ridge of the right side, and in its course it passed through the bone, fracturing the orbital plate through the right anterior lobe of the brain, lacerating the longitudinal sinus through the left middle lobe, and emerged at a point about an inch and a half above and behind the left ear. The rod lodged after entering about one-half its length, and was extracted by his companions, not without considerable difficulty and force, owing to a bend in a portion of the rod in the patients skull. For several days he was almost entirely comatose. Cold was applied to his head; his bowels were kept open by large doses of podophyllum and calomel; the wound was kept open by frequent deep probings, and the head so placed as to favor drainage. Fragments of bone, coagulated blood, and broken up brain tissues, were freely discharged. About the twelfth day he began to show signs of consciousness, took nourishment, and at times seemed to comprehend what was said to him. He gradually improved after the third week, and in eight weeks from the time of receiving the injury, was able to leave his bed. There was at no time, any marked paralysis

Physically he now seems as well as ever, is perfectly rational,



and will reply correctly in monosyllables to questions, but is entirely unable to connect words. He succeeds best, when excited, in swearing in French. This difficulty shows that that portion of the brain controlling speech, was seriously and probably irreparably injured. Up to this date, January 24, 1868, over eight months from the injury, he shows no improvement in this particular. The amount of mental power is also much impaired.—*American Journal of Medical Sciences, July, 1868.*

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CASE OF FRACTURE OF THE SKULL, WITH HERNIA CEREBRI AND COMPOUND FRACTURE OF PELVIS, FOLLOWED BY RECOVERY.—On the afternoon of the 13th of April, 1867, Thomas Raisbeck, æt. 25, was driving the engine of which he had charge on the North British line. He had taken a train up an incline, and was returning with only a goods van attached to the engine down the hill again. He was in front of an express train from the south, and with his light burden was going at the rate of at least forty miles an hour. He discovered that something was wrong with the supply pipe of the engine.

This is, he tells me, a pipe which passes from the tender to the engine, below the footboard on which the driver and the stoker stand, and can be reached by them only by leaning over the side of this footboard and reaching below the engine. He was very unwilling to stop, and thus delay the express which was just behind him, so endeavored to remedy the defect by trying to reach it without slackening his speed.

He forgot that he was approaching a station, and was still leaning over when the engine swept past Tynehead, the platform of which station at once knocked him off his step, and crushing him between the platform and the step, a distance of five or six inches at most, left him lying on the line. Most fortunately he fell clear of the wheels of the tender and van. The stoker at once stopped his engine, returned for him, picked him up quite insensible, and brought him into town as rapidly as possible.

He was at once conveyed to the Infirmary, and admitted into Mr. Syme's wards, by whose permission I treated him, and now report the case. On arriving, I found him very restless, and quite unable to articulate, though apparently he could recognize his wife, and his mother who had come to see him. He was bleeding from two flesh wounds on the back of his head. One, extending obliquely backwards from the right parietal towards the occiput,

was about three inches in length, and led to a comminuted and depressed fracture of the skull about two inches in length and one broad. The bone was shattered, the dura mater wounded, and one small piece of bone was driven through the dura mater into the substance of the brain. The wound of the dura mater was large enough to admit a goose-quill. Another flesh wound, parallel with the first and higher up, was unconnected with the bone.

The pelvis also was very severely injured—the left ala of the ilium being knocked off the basin of the pelvis, and quite movable. A small wound, close to the anterior superior spinous process of the ilium, rendered the fracture compound. There was very great swelling of the pelvis and thigh.

He was put under chloroform, and I removed all the loose fragments of bone from the fracture of the skull, carefully preserving the periosteum. I found the inner table broken to a greater extent than the outer, but easily enough got the splintered fragments away. The injured leg was very stiff, and any movement produced loud crepitus; but, as there was no fracture of thigh, the injury of the pelvis seemed sufficient to account for the crepitus and stiffness. A catheter was passed, and drew off a quantity of urine untinged with blood. His pulse was strong and firm, about 78. There was no evidence of any internal rupture. A bandage was placed round his pelvis, and the wounds of the head dressed with dry lint, as from his restlessness no other dressing would stay on.

On coming out of the chloroform, he seemed much more sensible, and appeared to recognize his wife.

*April 14th.*—Patient had a very restless night, and became so noisy that he had to be sent to the special ward for such cases, and to be strapped to his bed. Still it was possible to rouse him, and, when roused, he was pretty sensible and quite good-natured. Put out his tongue when asked. Pulse 84. Pupils natural.

He was ordered a full dose of castor-oil.

I now report the progress of the case as briefly as possible, by a few quotations from my notes of the case taken at the time.

*15th.*—Another very restless night. Bowels freely acted on. Takes beef-tea and milk easily—no solid food. Skin hot—face flushed. Pulse 92. To have a mixture containing aq. acet. ammoniæ, and tr. hyoscy. in camphor mixture.

*16th, 17th.*—Still very restless and delirious; can be roused by being spoken to.

*18th.*—More rational, but very thirsty and feverish. Milk diet only.



19th.—Weak, wandering, very low. Brain protrudes through the wound of dura mater.

20th.—Pulse 120. Very free discharge from compound fracture of pelvis. Extensive erysipelatous redness of side and flank.

21st.—Hernia cerebri increasing, now as large as a walnut.

29th.—During the last week all the inflammatory symptoms became more marked—possibly partly owing to his removal from No. 10 ward to the Surgical Hospital, which was advisable for various reasons, and took place on 23d. To-day he is again wildly delirious. Pulse 125, very hard; skin hot. Hernia cerebri as large as the half of a small apple. Head is now completely shaved, cold applied, and 1-12th of a grain of tartarized antimony given every hour.

30th.—Much better. Pulse down to 110.

*May 9th.*—Since last report, his general condition has much improved. The hernia cerebri has now dried up and disappeared. The wound in dura mater is apparently closed. The compound fracture of pelvis has ceased to suppurate, and now, four weeks after the accident, the fractured basin of the pelvis may be supposed to be nearly firm. Attention could now be directed to the condition of the thigh, which is shortened, and the head of the femur, which seems to be lying somewhere about where the upper margin of the acetabulum ought to be.

He was put under chloroform, and manipulation very cautiously used under Mr. Syme's direction. It was found that, with the most perfect ease, the bone could be shifted from the position above the acetabulum into the foramen ovale; but, on endeavoring to place it on the acetabulum, tremendous crepitus was elicited, and the head immediately slipped out of the broken cavity. The previous diagnosis of fracture of the pelvis involving the acetabulum was thus confirmed, and no further attempt was made; the limbs were fastened together at knee and ankle, and the thigh was kept with the head as near as possible to its proper position. This interference with the parts was, however, not without bad results, though well-intentioned, for, without going into detail, his pulse steadily rose, till on the 12th it was again at 120, and on the 15th a large abscess had formed under the adductor muscles, which was evacuated low down in the thigh to his great relief.

23d.—Steady improvement since abscess was opened. Pulse down again to 104.

27th.—Discharge very profuse and fetid. Pulse up again, and rising. Skin hot.

*June 1st.*—Patient apparently sinking from hectic, discharge extremely profuse, new abscesses forming round hip, appetite gone, occasional rigors. Pulse 148. Bed-sores formed on sacrum and nates from the contact with the fetid discharge, which rapidly rots the bed clothes and irritates the skin.

Whisky and wine *ad libitum*, with strong beef-tea.

*4th.*—A slight improvement; discharge sensibly less. Pulse down to 116.

From this date the progress of the case was one of almost uninterrupted recovery. He gained appetite, flesh, and strength. The sinuses gradually ceased to discharge. The bed-sores healed, and he was dismissed September 16, walking on crutches.

*Present State.*—General health remarkably good, thigh and leg well nourished, no shortening between head of femur and patella, but very great change in position of head of femur. It is not in the seat of either of the four well-known dislocations, but is displaced more directly upwards, approximating closely to the anterior superior spinous process of the ilium, and involving a shortening of about  $2\frac{1}{2}$  inches. The motion of the joint is free enough in a limited area, *i. e.*, the head of the bone apparently plays in a cup lined by synovial membrane and cartilage, without creaking or roughness, but the flexion is limited apparently by abnormal bony processes. There seems little doubt that this new seat is the old acetabulum, limited in size, and displaced bodily upwards by the complicated fracture of the pelvis. A very similar case is recorded in the Medical Times and Gazette for Saturday, March 28, 1868, as existing in the Dupuytren Museum.

I have endeavored to give some idea of the exceedingly dangerous nature of the poor lad's accident and subsequent illness; but it is difficult for any one to realize, who had not seen him, the intense prostration and apparently absolutely hopeless condition in which he was, first from the acute head affection, and secondly from the hectic from his profuse discharge. He is now working in the engine-sheds at St. Margaret's, seven hours a day, and his general health is excellent; although the limb is shortened, and he needs a high-heeled boot, he walks rapidly with a stick only.

With regard to the dietetic treatment pursued, his chief nourishment consisted of beef-tea and milk, in large quantity and at short intervals. The quantity of alcoholic stimulants was much smaller than is usually given in such cases in the present day. But the advantage of limiting their use was very evident in the beginning of June, when he was apparently sinking from hectic; for then the



use of a few ounces of whisky daily improved his appetite, and seemed greatly to aid in his recovery.—*Edinburgh Medical Journal for June.*

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NEW ASYLUM FOR THE INSANE IN PENNSYLVANIA.—We copy the following interesting letter from the North American and United States Gazette, of June 29, 1868.

Within the past few years it has been conclusively shown that there exists in Pennsylvania a great want of adequate provision for the care and treatment of her insane. While the States of Ohio and Kentucky, with an intelligent liberality that does them the highest honor, have provided accommodations for all the insane within their borders, and other States are rapidly approaching that condition, our grand old commonwealth, the pioneer in this cause, has now within its limits not less than fifteen hundred citizens who are suffering from the want of the provision just referred to. Guiltless of crime, they are nevertheless to be found in the jails, in the alms-houses, in the private houses; or, worse than all, in the isolated prison-like huts put up for their safe-keeping, and in none of which can they receive that kind of treatment that is likely to promote their restoration to health.

To remedy this condition of things, so discreditable to the State, and so subversive of the best interests of the afflicted, and of the whole community, a bill was passed at the last session of the Legislature appointing commissioners to select and purchase a site for a new State Hospital, to elect a superintendent, and to put up the necessary buildings. The district to be specially provided for is composed of the twenty counties in the northeastern section of the State, and the hospital is intended ultimately to provide accommodations for about four hundred patients. The commissioners named in the bill, and to whom the important trust has been confided, are Dr. John Curwen, of Dauphin county; Dr. Joseph A. Reed, of Alleghany; and Dr. Traill Green, of Northampton, all distinguished members of the medical profession, the two first named having charge of the present State hospitals for the insane, and the last the President of the State Medical Society for 1867.

It is only just to say that to the persevering efforts of this society, and of individual members of it, the State in a great measure will be indebted for this new and much needed institution.

The first step taken by the commissioners was the appointment of Dr. S. S. Schultz, of Dauphin county, formerly Assistant Physician of the State Hospital at Harrisburg, and a gentleman of experience in the specialty, as superintendent of the new hospital. The next important duty was to find a suitable site for the proposed buildings, a task involving no little labor, for to such an establishment certain things, not always to be obtained in conjunction with the same tract of land, are indispensable. The law required that there should be two hundred and fifty acres of land, there must be abundance of good water, complete facilities for drainage, a reasonable proximity to a town of considerable size, and regard must also be had to geographical centre, and still more to the centre of population of the district to be accommodated.

The gentlemen already named started on their tour of inspection on Tuesday, the 16th instant. To aid them in their work they had invited and were accompanied by his Excellency Governor Geary, Hon. Wilmer Worthington, and Hon. Mr. Erritt, of the Senate's Committee on Charitable Institutions, Dr. Isaac Ray, the well-known authority on insanity, Dr. Kirkbride, of the Pennsylvania Hospital for the Insane, Miss Dix, the distinguished philanthropist, and Mr. McArthur, the architect of the proposed building. The party left Harrisburg as already stated, and, reaching Williamsport the same evening, spent the following day in examining the proposed farm, and the advantages of that neighborhood, as prescribed by the very intelligent committee to whom the interests of that flourishing town had been entrusted by its citizens.

On Thursday the commission proceeded to Danville, and examined sites in that vicinity. On Friday they reached Bloomsburg, and pursuing the same course in that neighborhood, arrived at Wilkesbarre late on Friday evening. Several farms in that region were carefully examined on the following day, and on Monday the party continued their visitations in the same vicinity, before proceeding to visit the other points in the district, to which they had been invited, and which are supposed to possess the requisite advantages for a first class hospital for the insane. Everywhere they went they had abundant opportunity to see, under the most favorable circumstances, the beautiful scenery and the many objects of interest abounding in that section of the State, and were forcibly impressed with the high character of the improvements that were generally visible, and with the industry, enterprise and hospitality of the citizens.

It may be some time before a final decision is arrived at in re-



gard to the location of the new institution, for the Commissioners are proceeding with great care, and hope to procure the very best that can be obtained within the prescribed limits.

The party was received with distinguished attention at every place which they visited, the most prominent citizens and the people generally manifesting a deep interest in the subject, and an anxiety to hear from the gentlemen who were engaged in this important duty. In nearly every town where they stopped there were large gatherings of the people, with serenades to the Governor and his friends, and on these occasions admirable addresses were made by Governor Geary, Senator Worthington and others.

It was a rare spectacle, and one most honorable to all parties, to witness the chief executive and other high officers of a State, when having public receptions, eschewing all politics, and addressing an appreciative people on humanitarian themes, disseminating the soundest principles on subjects not generally understood as they should be, and teaching the necessity and expediency, as a mere matter of political economy, of abundant provision for the prompt and enlightened treatment of every case of insanity—a malady which spares no class in severity, and which, curable as it is in its commencement, if neglected in its early stages rarely fails to end in the permanent loss of what alone makes man superior to the other species of animated beings around him. Hardly less creditable is it to the high functionaries of our State government, that as they passed among the people, they gave the best illustration of their principles in regard to temperance and the use of alcoholic drinks, for nowhere throughout their journey was anything that could intoxicate seen at any entertainment at which they were present. Although engaged on a different mission, they were teaching by example, which, as usual, is vastly more effective than the most elaborate precepts separately prescribed.

The completion of the labors of this commission will be looked forward to with great interest, not only by the citizens of the section to be especially benefited by this enlightened action of the last Legislature, but by the people of the whole State, and by the philanthropic everywhere.

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THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN INSTITUTIONS FOR THE INSANE.—We are obliged to reserve any particular remarks on the proceedings of the meeting of this Association, held in

Boston in June, until we receive an official report of them. Several papers were read on interesting subjects; and there seems, from the abstract which we have seen in the newspapers, to have been an animated general discussion on the propositions reported by Dr. Ray for legislative consideration, respecting the legal relations of the insane. Some modifications were made, and the whole finally adopted as a compromise of the particular views of the members present. On one of the topics our readers will perceive that we have made some general suggestions in this number of the JOURNAL. There are one or two other topics that might be enlarged upon as interesting, particularly that regarding the validity of wills, which opens the consideration of a very nice subject indeed, and of the greatest practical consequence.

We subjoin the propositions referred to as we find them printed in the Boston Journal.

Insane persons may be placed in a hospital for the insane by their legal guardians, or by their relatives and friends in case they have no guardians, but never without the certificate of one or more responsible physicians, after a personal examination made within one week of the date thereof; and this certificate to be duly acknowledged before some magistrate or judicial officer, who shall certify to the genuineness of the signature, and of the respectability of the signer.

Insane persons at large may be placed in a hospital or other proper place of detention by order of a magistrate, who shall have investigated the case and shall have had presented to him a certificate of insanity signed by one or more reputable physicians.

Any high judicial officer may be petitioned in writing by any respectable person for the commitment of any person requiring restraint on their own account or that of others, and the case shall then be investigated and decided upon by a commission appointed by this officer, and consisting of three or four persons, including at least one physician and one lawyer. The written statement of some friend of the party so confined that he is losing his health, or



has so far recovered that he can safely be discharged, shall cause a judicial investigation of the case, and a decision in accordance with that investigation.

Any high judicial official may be petitioned in the same way as mentioned in the preceding paragraph, or by the officers of a hospital, for an investigation of the case of a person confined in an insane hospital and believed by the petitioner or hospital officers to be worthy of his liberty; and the case shall be acted upon by such a commission as provided for in the preceding paragraph. These examinations, however, shall not be made oftener than once in six months in the same case, and not within the first six months of the person's residence in an asylum.

The relatives or friends who have placed a person in an asylum can remove that person, and persons placed there by the order of a magistrate can be removed in the same way.

Paupers can be placed in insane asylums by municipal authorities, supported, as in other cases, by medical certificates, and the same authorities can secure their discharge or release.

Insane persons shall not be made responsible for criminal acts in a criminal suit unless such acts shall be proved not to have been the result, directly or indirectly, of insanity. Insane persons shall not be tried for any criminal act during the existence of their insanity, and for settling the question of such alleged insanity, a judge shall appoint a commission of three or five persons, all of whom shall be physicians, and one, if possible, an expert.

Persons acquitted in a criminal suit on the ground of insanity, shall be committed by the Court to some place of confinement, for safe keeping or treatment, and shall be detained there until he shall be discharged by the order of some Judge of the Supreme Judicial Court. In cases of homicide or attempted homicide, however, no discharge shall be made unless with the unanimous consent of the Superintendent and Managers of the Institution where he has been placed, and the Court before which he was tried.

Persons manifestly suffering from the want of proper care or treatment may be placed in some hospital for the insane, at the expense of those legally bound to maintain him, by order of any high judicial officer.

Judges of Probate, or other officers with similar power, may be petitioned for the guardianship of insane persons, and such guardianship may be granted upon the satisfaction of that officer that such a measure is necessary.

Insane persons shall be made responsible in a civil suit for any injury committed upon persons or property, with due reference to pecuniary means for covering damages, and any extenuating circumstances.

The contracts of the insane shall not be valid, except for articles of necessity or comfort suitable to the means or condition of the party, or in cases where the other party had no reason to suspect any mental impairment.

Wills may be invalidated on the ground of the testator's insanity, upon satisfactory proof that he was incapable of understanding the nature and consequences of the transaction, or of appreciating the relative values of property, or of remembering and calling to mind all the heirs-at-law, or of resisting all attempts to substitute the will of others for his own, or that he entertained delusions respecting any heirs-at-law, calculated to produce unfriendly feeling toward them.

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**ACTION OF BELLADONNA AND HYOSCYAMUS.**—Dr. J. Harley, in a recent lecture in the Royal College of Physicians, on the therapeutic action of belladonna, said:

The simplest view to be taken of the operation of belladonna is that of direct and powerful stimulation of the sympathetic nervous system, of which the increased force and action of the heart may be taken as the exponent. In children, and in many of the lower animals, this is so far the chief effect that, in medicinal doses at least, it may almost be regarded as the only one.

Adverting then to the medicinal use of belladonna, the lecturer placed this plant at the head of all stimulants; and having illustrated its use as being at one and the same time the most potent cardiac stimulant and diuretic that we possess, advocated its use in cardiac asthenia and syncope, in the collapse of cholera, in suppression of urine, and in diseases attended by imperfect oxydation—vis., rheumatic fever and gout.

In chronic nephritis he regarded it as being a most hopeful means of restoring the kidneys to healthy action, and he adduced several cases to show that belladonna had been beneficial in exciting a healthy tone in the renal blood-vessels, and so diminishing the quantity of albumen in the urine.

The same authority, in a subsequent lecture on the action of hyoscyamus, expresses the opinion that hyoscyamine in combi-



nation with opium produces the most powerful hypnotic action possible. Each increases the effect of the other. Quantities of morphia and hyoscyamine, which of themselves are insufficient to cause sleep, will, when combined, speedily induce that condition.

Like atropia, hyoscyamine is eliminated by the kidneys, and the lecturer stated that he had detected it in the urine twenty-two minutes after the subcutaneous injection of the one-fifteenth of a grain of hyoscyamine.

Treating of its therapeutical use, the lecturer stated that he had found it serviceable in certain cases of epilepsy and enuresis, and extremely valuable in irritable conditions of the brain and heart; and that it is especially useful in often determining and invariably increasing the hypnotic action of opium.

In treating of the combined operation of belladonna and opium, the lecturer, having previously determined the separate effects of atropia and morphia upon the horse, the dog, and man, gave the results of their operation when simultaneously administered, or when the one remedy was allowed to precede the other by a variable time.—*Medical Record*, June 15, 1868.

AMERICAN  
JOURNAL OF INSANITY,  
FOR OCTOBER, 1868.

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INSANITY, AND ITS RELATIONS TO MEDICINE.\*

GENTLEMEN OF THE SOCIETY, LADIES AND GENTLEMEN:

It will be generally admitted, that in the science of medicine, as in other sciences, no one of its various branches can be successfully cultivated without paying due regard to the connection between that branch and the whole body of knowledge to which it belongs.

The object of this address is to show the application of this truth to the case of psychological medicine, in which such application has hitherto been too imperfectly perceived and acted upon; to show that the treatment and care of the insane should be recognized as constituting a department inseparable from general medical science; its study and development governed by the same rules, and its progress made dependent upon the same causes, that advance or retard the progress of all medical knowledge. If this be true, it will appear, not only that a thorough acquaintance with this subject must be founded upon a comprehensive knowledge of the general science, but that, without such acquaintance,

\*Annual Address before the Medical Society of the State of New York, February 5, 1868, By JOHN P. GRAY, M. D., President of the Society, and Medical Superintendent of the New York State Lunatic Asylum, Utica.



the study of the general science itself becomes defective, and that it should therefore form a part of the general course in all medical training, and be accorded a place in the schools where elementary principles are taught.

It was for a long time supposed that the treatment of the so-called diseases of the mind was quite a different thing from the treatment of diseases of the body; and this idea has not yet wholly disappeared. It will be my first object, in order to establish the connection between psychological and general medicine, briefly to touch upon some of the facts which tend to prove this supposition an erroneous one, and insanity to be subject to the same laws, and to present the same general pathological conditions, which are found in other diseases.

And first, a reference to the history of this branch of medical knowledge, will show that progress in it has been either rapid or retarded, in direct proportion as the method of studying it has been similar to that pursued in regard to disorders deemed purely physical, or has been founded upon the notion that it was a department of metaphysics rather than of medicine, and so made a subject of metaphysical speculation, instead of a subject of observation and experiment. There is evidence in the writings of the ancients, both of their philosophers and their medical men, to show that they entertained many clear ideas in relation to the physical causation of insanity; and as a consequence, it is safe to aver that, in recognition of the psychical phenomena of the disease, and in the moral treatment to be applied, we have at this day made no astonishing advance from the age of Pythagoras. The Fathers of Medicine did not regard insanity as a special department, but it was studied, investigated, and treated by them in the same way as other diseases. When Hippocrates was called to treat the King of Macedonia for disease of the lungs,

his diagnosis revealed insanity, of which he cured his patient. His fame indeed rested partly on his skill in this direction; and owing to this, he was called to treat the philosopher Democritus, whom he found engaged in dissecting various animals, in order to discover the cause of his malady. "Hippocrates," says Burton, "relates (the story) at large, in his epistle to Damegitus, wherein he doth express, how coming to visit him one day, he found Democritus in his garden at Abdera, in the suburbs, under a shady bower, with a book on his knees, busy at his study, sometimes writing, sometimes walking. The subject of his book was Melancholy and Madness. About him lay the carcasses of several beasts newly by him cut up and anatomized; not that he did condemn God's creatures, as he told Hippocrates, but to find out the seat of this *atra-bilis*, or melancholy; whence it proceeds, and how it is engendered in men's bodies, to the intent that he might better cure it in himself, and by his writings and observations teach others how to prevent and avoid it, which good intent of his, Hippocrates highly commended." Medicine and philosophy were then dissevered. Hippocrates was a physician, and Democritus a philosopher.

Among the Egyptians, we are informed, there were retreats for the insane, where wine, music, cheerful amusements and repose were the gentle and effective agencies brought to bear upon the disordered intellect, and modern skill has discovered no better aids to a successful treatment of the disease.

During the middle ages, however, the knowledge of the causes and treatment of insanity was almost lost. It was a subject peculiarly exposed to perversion, from the general tendency of the intellectual activity of those times to abstruse and barren philosophical speculations upon everything connected with the mind, and its re-



lations to the body. Owing to this, as well as to other causes, psychology was the last branch of medical science to emerge from darkness after the revival of learning, and it has remained more or less clogged with the fetters of metaphysical theories even to the present day.

It would indeed be interesting to inquire into the various theories of insanity; but it is not practically important or profitable to do so in an address intended only to direct inquiry, awaken interest, and suggest practical hints. Still it may be proper to say in support of what I have stated, that strange as it may now appear, the almost universal belief, until a comparatively recent period, has been, that the mind itself was diseased—notwithstanding that such a dogma would imply its death, as what may be sick may also die. It is however due to medical science to say, that this has never been fully accepted by the majority of the leading minds of the profession. To show how this idea of disease of the soul or mind adhered to the science long after it was condemned by the developments and progress of pathological investigations, it is only necessary to refer to recent authorities. Dr. Bucknill, in a prize essay on Criminal Lunacy, in 1854, says that there are three theories, the psychic, somatic, and psycho-somatic.

With the impulse given to the study of mental philosophy by the writers of the eighteenth century, both in England and on the continent, no corresponding advance took place in the study of mental disorders.

The first step towards progress and improvement in this field of investigation, was not due therefore to mental philosophers, but to physicians and philanthropists. The labors of Pinel, and the results accomplished by him in ameliorating the condition of the insane, are known to all. It is not so generally known, however, that before the philanthropic efforts of Pinel were com-

menced, the subject had already received the attention of Benjamin Franklin, and other benevolent persons in this country. As early as 1750—forty-three years before the movement of Pinel—the Pennsylvania Hospital, at Philadelphia, was organized, and a department for the care and treatment of the insane established; in which the system afterwards advocated by Pinel, in France, was anticipated, and the barbarous method of treatment to which the insane were then exposed, was abandoned. In the preamble to an act of the Provincial Assembly, there are these noble words: “Whereas, there are frequently, in many parts of this province, poor distempered persons, who languish long in pain and misery, under various disorders of body and mind—and being scattered abroad in different and very distant habitations, cannot have the benefit of regular advice, attendance, lodging, diet and medicine, but at a great expense; and, therefore, often suffer for want thereof; which inconveniency might be happily removed by collecting the patients into one common Provincial Hospital, properly disposed and appointed, where they may be comfortably subsisted, and their health taken care of at a small charge, and by the blessing of God on the endeavors of skilful physicians and surgeons, their diseases may be cured and removed.” Pursuing this preamble, an act was then passed founding a “hospital for the reception and relief of lunatics, and other distempered and sick poor,” and providing for their reception, “without partiality or preference.”

This system of moral treatment, the substitution of kindness for the lash, and of soothing influences, and comparative freedom from restraint, for confinement in narrow cells in filth and starvation, was the first great step towards a proper understanding of the method of curing insanity, although the theory of mental disorders



was still imperfectly recognized. But the good effects of the improved methods were owing to the better hygienic and sanitary condition of the patients, and, if the full bearings of this fact as showing the intimate connection between general pathology and disorders of the mind were not recognized, observing men could scarcely fail in spite of false theories, from seeing the favorable results, upon the patients, of due attention to the physical aspects of this disease. It is also a fact which should be borne in mind in criticising the past, that without a rational theory, there could be no rational treatment; and that therapeutics could not have a principal place in the treatment, while the disease was unrecognized as a bodily affection, but considered as a spiritual disorder.

It will be remembered that at the period of which we speak, the latter half of the eighteenth century, the science of medicine was making rapid progress, and this period of its history is adorned by some of the most distinguished names both in this country and in Europe.

It may well be a matter of national congratulation that in this great reform America took the lead. All the known resources of benevolence and medical skill for the recovery of the unfortunate victims of insanity, were applied long before Pinel unchained the madmen in the Bicêtre. That great man accomplished vast results in France; but the records of sickening barbarities to which the insane were subjected in the hospital which was the scene of Pinel's reforms, in the heart of Paris, under the shadow of her schools of philosophy, and in the intellectual centre of Europe, is a striking illustration of the terrible distance to which psychological medicine was there left behind in the wake of the general advance of medical science. Simultaneously with the reforms of Pinel, the Retreat, at York, Eng-

land, was proposed by William Tuke, under the auspices of the Society of Friends. The reports issued from this hospital were the first of the kind published, and did much to show the curability of insanity under proper treatment, while they awakened an interest in the subject which finally attracted the attention of civil governments to the necessity of the sanative care of this unfortunate class of persons, and thus inaugurated the system of hospitals which now prevails so extensively over this country and in Europe. With the establishment of this system, the care of the insane was transferred solely to medical men; the patient was no longer under the charge of a keeper, but under the superintendence of a physician; and as a result, insanity soon came to be regarded as a curable disease, and the reports of modern hospitals slowly but steadily spread this important truth, which it is so difficult, yet so essential, to impress on the public mind. These reports have further presented facts and statistics, and the collected results of observations, tending to dissipate the old error of the psychic theory that the soul or mind can be diseased; and, in consequence, this branch of medicine is now nearly released from the trammels of metaphysical vagaries. Moral insanity is the last remnant of the metaphysical school. This dogma once out of the way, and insanity is fully in the region of practical investigation, and within the domain of medical science.

The historical facts thus briefly noted show the result they were cited to prove. First, that progress in the proper understanding and more accurate knowledge of insanity, has not been owing to the advance of mental philosophy; but that, on the other hand, just so far as the methods and theories of mental philosophy have been applied to insanity, and the methods and theories



of medical science have been neglected, just in the same ratio has progress in the knowledge and treatment of insanity been retarded. Secondly, the history of the investigation and study of mental diseases will, in support of the view that insanity is properly a branch of general medicine, disclose the fact that psychological medicine, whenever it has been free from the adverse metaphysical influences to which reference has been made, has kept pace with general medical science. The origin of the humane system of treatment for the insane, nay, the very existence of hospitals themselves, has often been attributed to the sole influence of religion. But making all allowance for the charitable impulses of religion, science alone can show how those impulses are to be carried out. Asylums have a history dating back three centuries; but what, we may ask, was their actual condition until a comparatively recent period, when medical science stepped in to enlighten religion itself, and to show what humanity really requires? Indeed we may say that to this day, in most cases in which this class of the afflicted have been left only to the chances of philanthropy and religious sympathy, and without reference to the system of hospital treatment provided by true science, their condition is actually little better than that of the same class was a thousand years ago. In the State of New York, and in other places, insane men and women are in chains and neglect, and this within the sound of church bells; and languish unvisited and unthought of by worshipping congregations, which annually raise thousands of dollars to transmit to remote nations to rescue and educate the heathen. It is hardly too much to say that this state of things will continue until medical men demonstrate the mode of relief, and declare its measure. Show civilized and religious communities *how* they shall arrest

all this wrong and remedy it, and it will soon be accomplished.

That progress in the knowledge of insanity has come from advance in medical science, will appear more clearly from the following facts among others:

First. A large number of those whose names are distinguished in the history of medicine, have embraced insanity in the scope of their investigations, and made it part of their study and practice.

Second. If the condition of cerebral pathology at any given period be examined and compared with the pathology and therapeutic treatment of insanity at the same time, the pathological knowledge and the treatment will be found to correspond in character.

Third. Although the moral treatment of the insane has borne some relation to the general state of society, it has never been properly understood or effectively practiced except under the direction of physicians.

The same cruelties, as we have intimated, are practiced to-day, and tolerated by society, that were in vogue some centuries ago; and will so continue until medical science shall fully embrace the whole compass of the treatment and care of the insane, and make it a part of the duty of all physicians to meet, in study and practice, all requirements of this disease as well as those of any other.

It is a striking fact that the medical profession has in all ages persistently advocated the amelioration of the condition of the insane; that it has always stood in the foreground, and in every respect in advance of philosophers and theologians. Both the latter have at times stigmatized the disease as degrading; the one holding that mental endowments and culture alone were noble—had no sympathy for suffering—while the other, beholding in the moral perversions of the disease the



operations of sin, and even possession of the devil, treated the wretched beings as though they were the authors of their own misery, and justly cursed of God. But medicine throughout this conflict stood by the sufferer even at the risk of being called unbelieving. In modern times, under the full light of science, we have almost the same spectacle practically, though not theoretically. To-day, almost without exception, the advocates of the cause of the insane are medical men. Ministers, statesmen and scholars are silent; and the reason is, they feel and accept the fact that they are powerless to direct or carry out measures of relief, and look to the medical profession. What can be demonstrated as wise and practical by the medical profession will ultimately prevail. Let that profession solve the problem. Let it once assure the public of its capability and willingness to do so, by universal preparation to meet the necessities of treatment, and all difficulties will vanish, and the public mind will soon be divested of that dread which superstition and ignorance have thrown around the sufferers from this malady.

The third consideration advanced to show the connection between general medicine and insanity, is the fact already adverted to, that insanity is now generally recognized as a bodily disease, a disorder of the brain, and must take its place in the category of the neuroses, and is in fact the highest expression of this class.

But while it may be said to have a very wide range of causation, the pathological conditions are circumscribed. Says Dr. Bucknill, "It may perhaps be strictly said, that all the forms of mental disease are dependent on one of three states of the nervous system—a state of increased, or a state of diminished, or a state of unequal excitement of that system. There is almost always accompanying disorder of some of the bodily functions;

of the circulation, which is so implicated with the nervous system, and of digestion and assimilation; and of the function by which animal heat is preserved and regulated." Has not the general profession in the study and treatment of disease, accomplished a great part of the study and treatment of insanity? The reciprocal influence of body and mind is a fact constantly before the physician. The fact that organic functions influence the mental state is well recognized. We all know that disordered conditions affect the mind in its emotional manifestations and intellectual activity. Certain morbid states in the lungs produces delusive hopes and gayety, which are in contrast with the actual state of the organ. Disease of the heart often produces depression, without any consciousness on the part of the patient of its cause. Certain conditions of the digestive apparatus exert an immediate influence on the mental state. It is in this way that the physician is constantly studying these conditions, and treating his patients in the recognition of the great law which underlies the study of insanity: that bodily conditions are the essential, potential causes of the mental state called insanity. Through the emotions we have all those ephemeral disturbances denominated passions, and with the subsidence of the cause, reason reasserts itself. In insanity we have the same thing, emotional disturbance and loss of calmness or reason. But here there cannot be as ready a subsidence of the cause as before; the cause being actual physical lesion, which must first be relieved. When a sane man chooses to control and direct his mind, and govern the fancies and incoherent train of thoughts passing through it, he does so by checking his emotions. The insane man is unable to do this, as his emotions are under the influence of a disordered physical state. His normal authority over himself, so to



speaking, is lost. The cerebral disease keeps up a constant irritation which is independent of the will, and in fact unknown to the sufferer, and unrecognized by him, and by which he is constantly misinformed. If it be true that the power of self-control or self-direction is the criterion of intellectual ability, and is the highest expression of normal mental action, then its loss as the result of disease, is the psychical test of a true alienation.

The departure from a normal state in the way of feeling, thinking and acting, may be recognized by the patient, and may be accounted for by himself, through physical lesions. No false judgment is formed; therefore there is no delusion, and the man is sane. He may hear false sounds, see images, feel depressed or excited, take a gloomy or unusually cheerful view of things, and recognize all as the offspring of a disordered state. One step more and he is insane. "The lesion of intelligence and the loss of consciousness of that lesion," says Baillarger, "are two very distinct facts, and both are necessary to constitute a true mental alienation."

If the foregoing views are correct, we cannot well avoid the conclusion that there is nothing about insanity to banish it from the field of general medical investigation; and at the present time when the profession is earnestly discussing the question of more thorough and systematic medical education, would it not be well to extend it so as to embrace the whole field of medicine? What is there more difficult in the medical investigation of insanity, than in epilepsy, and the various forms of paralysis? If these and other nervous diseases receive attention in the office of the preceptor, and in the lecture room, why should the most grave, and yet curable of all diseases of the brain be excluded, and assigned to the study of a few medical men? There are really no more obstacles to successful study here, than in the other

diseases mentioned; and if there were, it could be no reason for the neglect, but, on the contrary, an additional reason why it should be studied. It is not characteristic of medicine to shun difficulties. Again, all the insane before transfer to hospitals must come under the observation of the ordinary practitioner, and he must sign a certificate of the existence of the disease. Should he not then be able to recognize it and understand its treatment? Because the majority of the insane are, and probably always must be cared for in hospitals, it is no reason why the minority who remain outside should not be treated, or if treated, treated ignorantly. If even only a small proportion can be managed successfully at their homes, it is the duty of every physician to prepare for their proper treatment. Further, if the early symptoms were better understood by physicians generally, how many cases would be checked, or modified in their early stages, and how much human suffering thus prevented? The knowledge of the premonitory symptoms of paralysis is surely more available for good, than the knowledge of the symptoms and treatment after the disease has fully manifested itself. And we have acquired this knowledge not by observing paralysis, but by patient investigation of preceding symptoms. So it is equally true of insanity. If the early symptoms of *melancholia* were as well understood by general practitioners as the premonitory symptoms of phthisis, how many suicides would be prevented, and how many advancing to that sad form of cerebral disease might be restored before its full invasion!

It has happened when I have advised persons to apply to their family physician, stating that their case is only one of general loss of tone and may be successfully managed out of an asylum, that the persons have returned with the answer that the physician was unwilling to undertake the case.



To attempt to set forth the study and treatment of insanity, would be an endeavor to embrace the entire routine of medical practice. Causation alone, indeed, embraces the most careful study of general medicine, as the disorder of any one organ may directly or indirectly affect the brain, and induce the mental disturbance. And the therapeutical treatment is but the application of well recognized principles. If insanity is caused by the vital depression following overwork, this state must be corrected. If it originates in the defective nutrition often associated with tuberculosis, then the remedies for tuberculosis are mainly to be relied upon. If in consequence of the functional impairment called dyspepsia, then that condition must be met. It is to medicine proper, therefore, that we are to look for relief, and the moral appliances of isolation, amusements, &c., must receive only secondary attention. Without the former the latter would effect but little. It is however important to study the psychical symptoms to be able to distinguish insanity from other forms of cerebral or nervous disorders. In a medico-legal view it is also important. But, I repeat, treatment is mainly concerned with the diagnosis of the physical lesions. There are cases where a knowledge of the delusions may lead to the diagnosis of the true pathological state. I recall the case of a man who insisted that he was not sick, yet complained that he had been frequently stabbed in the back by unseen assassins, and examination revealed spinal tenderness and disease of the kidneys. Do we not then come down after all to the simple practice of medicine, and the ordinary methods of study? There is no specific or peculiar lesion of the brain or nervous system, and no structural form which may be said to be the ultimate cause of insanity. Here we look for facts as in other diseases, and take into consideration cerebral

or other lesions, and weigh their influences in inducing those ultimate conditions of exhaustion which are capable of producing the disease. The physiology of the brain is undoubtedly less understood than that of any other organ, and the study of its pathology must always be difficult.

A distinguished writer (Bucknill) says: "The physiological principle upon which we have to build a system of cerebral pathology is, that mental health is dependent upon the due nutrition, stimulation, and repose of the brain; that is, upon the conditions of exhaustion and reparation of its nerve substance being maintained in a healthy and regular state, and that mental disease results from the interruption or disturbance of these conditions." Here we have but the enunciation of the physiological principle underlying all pathology. Here we require rest, nutrition, sleep. Another writer (Griesinger) says: "There are, as in other affections of the brain, only three distinct categories of morbid elements, viz.:—lesions of sensibility, lesions of motion, and lesions of intelligence;" and "three great classes of elementary symptoms—disorders of the intellect, disorders of sensibility, and disorders of motion." This brings the study within narrow and well-defined limits, and at the same time is fully comprehensive of the whole field of psychological or psychopathic study. The mental or psychic symptoms may also be brought within an equally narrow compass. The departure from the normal standard in each individual case, consists in either increased or decreased cerebral activity. The morbid mental manifestations are excitement, depression, enfeeblement, or as well expressed by Professor Griesinger, "psychical depression, psychical exaltation, and psychical debility."

It only requires systemization to commence the suc-



cessful teaching of this branch of medicine. Materials are already within reach, and the field of pathology is not unknown.

But it may be asked what resources would a general pathologist have who attempted to embrace insanity in his course of instruction in connection with the neuroses?

1st—He would have a vast literature.

2d—He would have a large field in the carefully-observed hospital records.

3d—The opportunity of observation in hospitals.

4th—An actual *clinique*, which would soon surround experience, presenting most of the milder phases of the disease, and certain chronic conditions, as mania of long standing, dementia and paresis.

5th—Cases in consultation, which would soon familiarize him with all the difficult and obscure manifestations.

As to the literature, I need hardly say that it is more voluminous than that touching any other nervous disorder.

Of the resources contained in hospitals, it would be difficult to estimate the value. These contain volumes in description, diagnosis, pathology and therapeutics, which yet remain to be utilized. The thousands of cases described would embrace every form of disease—all the symptoms, somatic and psychic of the preliminary stages—the development—the progress—the treatment—the relation of condition to the various restorative means used—the morbid conditions—functional and organic, causing insanity, or associated with it in the several forms and stages of this malady—diseases and conditions intercurrent—states of physical health and mental irregularity resembling or approaching, yet not crossing the border of insanity. These records, made

from time to time, through the course of many years by various persons, are actual cases, and studied carefully, would be admirable substitutes for that clinical presentation which would, at least for the present, be impracticable. As the cases are written out by frequent entries, they are also uncolored by theories of the observer.

Here could be brought out every type or shade of mania, melancholia and dementia. Groups produced, embracing all that would be necessary to instruct the student, to enable him to understand and appreciate the disease, and put him fairly in the way of practical observation, teaching him what to look for, and how to recognize the symptoms which show especially the influence of morbid physical states over the operations of the mind through cerebral conditions.

A professor well-read in the literature of insanity, and familiar with nervous diseases and nerve pathology, would soon acquire the practical information requisite for successful instruction by entering a public asylum for a time. And this opportunity would be cheerfully extended by those having such institutions in charge, and the public would welcome such an omen for the general good. The extension of medical study and teaching to embrace thus the whole field of medicine, would awaken interest, and bring out those men of education and culture peculiarly adapted to special study. That great teacher of pathology, Griesinger, of Berlin, enriched his vast fund of pathological learning, and acquired the added power of utilizing it as a teacher, by seeking observation and experience in an asylum for the insane. His work on mental diseases, which has recently been translated and published by the New Sydenham Society, is second to no work on the subject in interest and practical instruction to medical men; and



to the alienist it is doubly interesting, as it brings him so fully into the broad domain of general medicine, and reveals to him what he constantly feels, more and more, as experience widens, that he is inseparably associated with general medicine, and cannot move a step without its aid. And here let me remark, that no physician can be long in practice in a hospital for the treatment of insanity, without experiencing the absolute necessity of re-reading medicine, and especially all that pertains to nervous diseases and nerve pathology. He soon discovers that almost every case must be examined and treated through his general professional knowledge, and he becomes more and more indifferent to the mental symptoms as expressed in delusions and delusive ideas, giving his attention mainly to abnormal sensations, and the origin and progress of morbid processes in special organs, or the system generally. Moral causes fade away under practical observation, and what would seem to be excitement, or depression, or enfeeblement of mind, are, under experience, referred to tuberculosis, anemia, or other special or general conditions of impaired physical health. How these mental conditions may originate in and be sustained by the neuropathic irritation aroused under the depressed vitality of tuberculization, or other morbid processes, we may not know precisely, but we do know that these states disappear if the physical lesions are removed.

I am well aware that this subject of extending the course of medical training to embrace the study of insanity, is beset with difficulties; but they are not insurmountable. Spasmodic efforts to accomplish this result have been made in this country, and in Europe, from time to time, but until recently these have not resulted in any great good, at least not in establishing psychopathy as a recognized part of study. Dr. Benjamin

Rush probably gave the first lectures on the subject. In 1791, he was called to the chair of the Institutes of Medicine and Clinical Practice in the University of Pennsylvania, and was one of the hospital physicians. He delivered lectures to the students of the University, on insanity, with clinical instruction as a part of his course. This was continued till 1812, when his lectures were published—"an elaborate work which had long been impatiently expected." (*Encyclopedia Britannica*.) In committing them to the public, he says, "it is with the hope that they may serve as a supplement to materials already collected, from which a system of principles may be formed that shall lead to general success in the treatment of diseases of the mind;" expressing the conviction that they could "be brought under the dominion of medicine, only by just theories of their seats and proximate causes." He undoubtedly disseminated the then prevailing opinions of the nature, pathology and treatment of insanity, and made an impression which has not yet wholly disappeared. His work became a standard and recognized authority. Among his labors was the translation of Sydenham, and a refutation of his theories of insanity, and the substitution of his own, which were in harmony with the prevailing views of pathology and therapeutics of his time.

Esquirol, in France, delivered lectures to his pupils in 1810, but he was not associated as a teacher with any of the schools of medicine. His writings, however, were appreciated, and his influence on psychological medicine was justly great and enduring. Sir Alexander Morrison delivered lectures in Edinburgh and London for many years, says his son, "to the members of the medical profession, and to such other gentlemen as signified their wish to attend them;" and "was encouraged to do so by His Royal Highness the late Duke of York, when he had the custody of his father, George III."



Dr. A. I. Southerland, at St. Luke's Hospital, London, delivered lectures on the pathology and treatment of insanity, from 1843 to 1855. More recently (1853) Dr. George Johnson delivered lectures on the subject before the Royal College of Physicians, in Edinburgh. Dr. Daniel H. Tuke has for several years delivered lectures on psychological medicine at the York School of Medicine. Dr. Guislain began in 1849 to deliver clinical lectures on insanity in the Insane Asylum of Ghent, before the students of the University in that city; Baillarger and Ferrus also in Paris as early as 1854; Dr. Pliny Earle in this country before the Berkshire Medical School, Massachusetts; and Dr. Tyler to a few pupils at Cambridge, Massachusetts. But all these, and other efforts at instruction which might be mentioned, have fallen short of systematic or efficient results, because they were partial in scope, and maintained that isolation which failed to awaken sympathy, or touch that chord of association which binds and allies any one part of medicine with the whole.

It was reserved for Professor Griesinger, in Zurich, Switzerland, and now of Berlin, to bring to those great schools of medical learning, the full realization of the importance of this subject to general medicine, as well as psychology, and to secure full instruction in this branch in connection with the teachings from the chair of pathology. Thus has been established "its true position as a proper and profitable subject of study, and as one demanding alike systematic and clinical instruction," and "its recognition as a regular portion of medical education." This distinguished pathologist maintains with his characteristic comprehension of the whole field of medical research, that medicine is one study, and that the interdependence of all its branches forbids the successful study of any dissevered from the whole, and

that "the lesions of the brain and nervous system constitute the real subjects of treatment, and their discovery is the true province of diagnosis." "Thus," he declares, "is psychiatrie intimately allied with the whole subject of cerebral and nerve pathology. What psychiatrie is, is understood by him alone who comprehends this alliance; and he only who has been duly instructed in the difficult questions of diagnosis in cerebral and nerve diseases, can embark on these problems respecting mental disorder, with hope of satisfactory results." Professor Griesinger in a recent letter says: "I remain firmly in the opinion that it is an absolute necessity to provide in every medical school for a clinical instruction in this branch of science, equally important for the welfare of the patients and their families as for the forensic duties of the profession. I remain also in the opinion that mental diseases are only a part of cerebral and nervous diseases, and that it is most convenient to connect intimately the study of mental science with the study of the pathology of nervous diseases.

"Clinical teaching in psychiatrie is not merely a future possibility, but an existing fact in several medical schools in Germany: the difficulties are by no means so great as many people think; nay, the carrying on work of this teaching is very easy, if only men of good will and experience are charged with the execution.

"Since my first lecture of 1863, I was constantly occupied in this line. At Zurich, in the summer courses of 1863 and 1864, I had a very satisfying psychiatric clinic, only in an old and small asylum, but with really great advantage for the pupils. Since the nearly three years I am at Berlin, my psychiatric clinic had an augmenting success every year, and my results have been very satisfactory. The Prussian Government accorded me at my proposition, when I entered its service,



the invaluable institution of a special division of the insane patients. So I can unite *de facto* the study of the two intimately connected branches, and I give now in the winter course regular lectures on nervous diseases with clinical demonstrations in each lesson. I think this way the best for the professor and for the pupils, and, I may say, for the advancement of science; but if however such a combination of the two cliniques may be impossible at another place, then I cannot but strongly recommend to carry out the clinical teaching of psychiatrie alone."

Within a year, the Bellevue Hospital Medical College of New York, has established a chair of "Diseases of the Mind and Nervous System," to which Dr. William A. Hammond has been appointed, and the "College of Physicians and Surgeons of New York" has appointed Dr. D. Tilden Brown, of Bloomingdale Asylum, lecturer on Psychological Medicine and Medical Jurisprudence. Thus the initiatory step has been taken in this country.

The intimate mutual connection of physiological laws in the maintainance of the economy, is a type of the complex symmetry of nature, and should teach us, as we seek to interpret her, that pathological laws are equally symmetric and interdependent.

It is eminently true of all the neuroses, that they are not only intimately allied to each other, but to the great mass of diseases not classed as nervous, and often interchange by what we choose to call metastasis; and thus what is one moment a gout of the toe, is the next a frightful gastralgia. To this rule insanity not only affords no exception, but is of itself the highest illustration. Cases could be given where the psychological manifestations never for a moment entered into their therapeutical aspects. Cases for example of acute mania, and melancholia, where tuberculosis of the lung was the

pathological lesion; and cod liver oil, stimulants, and generous diet were the therapeutical agents necessary for securing recovery.

I would not, however, wish to be understood as ignoring the value of psychological manifestations, while urging the greater importance of somatic symptoms. It is nevertheless true that the diagnosis of insanity in the various forms of mania, melancholia and dementia—paresis, epilepsy, &c., is but an insignificant part of the study, and may readily be acquired; but to diagnose the nature and seat of the physical lesion of the brain and nerves is the great problem to be solved in each individual case, and here the alienist stands side by side with the general practitioner. The diagnosis and treatment may be difficult; but the study, comprehension and application of the general principles of pathology and therapeutics are not essentially different from those which any intelligent practitioner is constantly called upon to apply. There is nothing mysterious or peculiar in the methods of study or treatment. It is the patient and careful investigation of laws, and the application of well recognized principles in medical science; and not a question of interpretation of mental phenomena, or the study of mind, so much as an observation of the reciprocal influence of morbid physical and psychical states on the great nervous center, the brain. It is true there are disorders of sensation which may sometimes disguise or obscure the symptoms, and thus lead the physician away from the real lesion. There are cases of latent phthisis where sensation is blunted; the cough and expectoration are suppressed because of the condition of the nerves of sensation in the lungs. Here the true cause of cerebral trouble may not at once be detected—may indeed seem to be something else than tubercular degeneracy. But experience would soon teach the



practitioner the importance of exploring fully the whole organism in every case before settling on a doubtful diagnosis, and physical exploration would reveal the operating cause and source of the morbid mental manifestations.

We all know and feel the importance of that hygiene, for body and mind, which, in the language of a distinguished writer, is "prior to diseases, to their diagnosis, their history, and their treatment;" "prior to them and beyond them; things earlier than their beginning, which deserve to be known—the habits, the necessities, the misfortunes, the vices of men in society." But we also know and feel that these are beyond our control: we only advise. We all realize the vital importance of meeting disease at its earliest inceptive stages, in its premonitions. And as insanity has its origin mainly in minor nervous affections, and in the conditions and diseases under the observation of and familiar to the general practitioner, if he were instructed in its preliminary and developing symptoms, how often might not the disease be averted or arrested, and in how many more cases so controlled in the beginning as to be treated at home, and, in others, hospital treatment advised before any unfavorable advance of prostration. Still, the question may properly be asked, after all, will not the insane be always treated in hospitals, and more successfully? and where is the particular advantage of doing more than simple diagnosis in a general way may require? We think this has been answered, and indeed if but one case in a hundred can be treated successfully at home, it would be the duty of the profession to be prepared to treat that with all the appliances and skill which advancing science may command. No one would be justified at this day in an experimental routine which might prove more disastrous than the disease if left to

itself. But the fact is, one in twenty, and perhaps more, might be successfully treated out of hospitals, if the profession were as familiar with the disease as they might be.

It seems to me, that every possible consideration urges to the complete union of the profession, and against any further tendency to specialize in study or treatment, in a strict sense of the term. There always have been, and probably always will be, professional men who, after the thorough study and survey of the whole field of medical science, choose to devote themselves to the practice of some one branch—but they are not necessarily specialists. In fact can we admit specialties? These, so called, have their origin in necessity, and are temporary. In the progress of medical science from entire darkness, special fields were necessarily explored by laborers and observers. It required the whole lives of many men to explore the fundamental laws of physiology and pathology, and to observe and record the action of remedies, where from the nature of things there was so much obscurity. Special workers, thus engaged in limited fields, have undoubtedly contributed to the more speedy and thorough development of knowledge and practice. This division of labor has therefore served a wise and noble end, and has hurried many obscure things to early and clear demonstration. This system of investigation has also brought out those of peculiar aptitude to special fields, and has thus thoroughly utilized ability and knowledge, and strengthened the profession and blessed mankind.

But this practice or order of expediency should not be carried too far, as some would argue, because it would encourage empiricism and superficiality in study. We should adhere to unity. All are members of one body, with one aim and one glory. Psychological medi-



cine especially, is too intimately allied with general medicine to admit of specialization in any true sense of the word. With the advance of medical science, insanity has been more and more practically understood; and, happily, the mystery and dread associated with it melt away under the light of investigation and experience; and both physicians and laymen see it in a less formidable light, when it is brought before them in its true character of a cerebral disease, and only a disease. Now the triumph is complete—mystery and superstition vanish, and the insane man stands forth simply as a sick man: one, who by reason of cerebral disease, is unable to use his brain—not a man with a mind diseased, a mad mind, an enfeebled mind—but with a brain and nervous system so disordered as to disturb, confuse, heighten, or lessen the mental operations; a mind acting through a disordered organ—a spiritual being untouched by disease, looking through the disordered and broken house in which he dwells.

We must hail the complete union of this apparently dissevered branch of medical inquiry and practice, with the whole field of professional inquiry. It is of the cerebral affections among the gravest, and yet most curable, and cannot be isolated. It should be studied, taught and practiced with its congeners. There is, we all admit, nothing in the disease beyond the study and scope of the practitioner. The literature is abundant, and unfortunately cases are too numerous to justify the plea of lack of opportunity for observation and treatment. Indeed, there are many members of the profession who treat certain cases of sub-acute mania and melancholia successfully in their families, and if there is not favorable progress made, or obscure symptoms arise, seek advice and consultation with those more familiar with the subject, as we all do in other diseases. Indeed

it is not uncommon for a physician to accompany a patient threatened with insanity, or other serious nervous disorder, and consult in regard to the case and its treatment with those who are connected with hospitals, or those who have been.

If the profession who recognize the hospitals for the insane as such, and not as receptacles for confinement, would always accompany their patients whom it is necessary to treat therein, and go through the institution, and interest themselves in the methods of management and treatment, many popular errors would be dissipated, and the profession would soon become familiarized with the general subject, and be able and disposed to direct the pupils in their offices, in the necessary preliminary readings, and thus facilitate the introduction of this branch into general study and practice, as a required and recognized part of medicine.

In conclusion, brethren, let me congratulate you on the advance of our glorious profession. Year by year she treads more firmly and securely the paths which lead into the very arcana of our subtle nature; and whatever of this wondrous mechanism and these mysterious forces she fails to penetrate or measure with eye and hand, she explores and weighs with cunning instruments, the devising of her own ardent children.

More noble than philosophy, which extended no charity to the sick, infirm and defective, she accepts the divine command to care for the poor, the sick, the maimed, the blind, the deaf, the dumb. Step by step she has advanced and forced her way through oppositions of ignorance, of skepticism, of superstition, and crowned her votaries with immortal honors. Having caught a glimpse of the inner man, she has relaxed no efforts towards exploring every tissue, and her mission will only be fulfilled when she has comprehended every



law of man's being, and exhausted the resources of nature in his behalf.

The sublime spectacle of Vesalius in his first dissection, illustrates the holy ardor, the nobility, the heroic courage of the profession in his age, and in all ages. In the path of investigation was toil, and dishonor, and death, but it was the road of life for all the race of man. On his vision shone the glorious light of coming triumph in medicine—the disinthrallment of that science which should save the race. He died a martyr to his zeal, but his work survived.

To-day medicine is the same. She still follows man in every step, from the hour of his conception to his death. If he fails through weakness—if he falls in the virtuous and legitimate struggles and duties of life, if overcome of appetite or passion, he sinks into disease or degradation—if in pestilence or war, on sea or land—she is alike at his side, a minister of healing.

Blessed, beautiful profession, symbolized, yea, practiced by Christ himself!

And ye who tread her princely courts, are justly proud,  
And they who feel her gentle hand, are truly bless'd.

# HISTORY AND PHILOSOPHY OF MEDICAL JURISPRUDENCE.

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In approaching the philosophy of any science, the mind is at first bewildered by the multitudinous relations under which it presents itself. Aside from abstract principles, which are few and easily recognized, the variety of their application, the subtle forms under which they exhibit themselves, and the gradual blending of their operations into each other, render their practical investigation always a difficult subject to master. Hence it is that we are driven to the common ground of accepted definition for the *πov στω* whence to originate all study and successful investigation. This is particularly the case in the physical sciences, where a natural correlation knits them together in a chain of mutual dependencies. But when, overpowering all these correlations, the law undertakes to apply her canons to the admeasurement of civil wrongs growing out of the operation of physical agencies, then it is that the subject, by additional complication, becomes difficult of solution. We need at such a time a knowledge not simply of positive, instituted law, but of natural law; a knowledge not of the language of human enactments alone, but of the language of physical agents as they express themselves through pathological signs. Without descending into metaphysical speculations, or losing ourselves in the mazes of dogmatic conjecture, it is still necessary that we should begin our inquiry with first principles—the germinal points—of every science. Having done this we can afterwards trace with ease and



increasing success, the relations which flow out of them; for no science can be difficult to him who has thoroughly mastered its elements.

It is not proposed, however, to enter into any large or critical discussion of the entire field before us, since that would indeed necessitate a volume of indefinite proportions. Medical jurisprudence as a science, is too comprehensive a department of philosophy to be disposed of in a magazine article. Its boundary lines exceed those even of natural history, since, as a syncretism between natural and human laws, it covers the entire field of both territories. Those who look at it only as the caudal fin to chairs of obstetrics or chemistry in medical colleges, know little of it besides its name. To them it is simply a myth, imported into the curriculum of medical study by way of ornament alone. Yet if we may trust one whose life was chiefly spent in its cultivation, and who may be supposed to have known all that proficiency in it cost him, as it will any one, desiring to follow its myriad avenues of necessitated investigation,—if we may quote the language of the distinguished Fodéré, we shall need advance no better argument, nor could we adduce a stronger one, in behalf of its majestic proportions. Let us listen to the great master, as he utters in his introduction, these striking words: “*Si l'on porte au reste à ce sujet toute l'attention qu'il mérite, l'on ne pourra qu'être effrayé de l'immensité des connaissances qu'exige l'exercice légitime de la Médecine Légale;*”—and if we pause but to reflect upon the fact that this neglected science, only tolerated by sufferance, and hardly adopted into the sisterhood of studies in medical schools, nor often granted a separate altar and an ordained priesthood—that this humble department includes *anatomy, physiology, pathology, therapeutics, surgery, chemistry, botany and hygiene* as its medical

phasis; while with a still wider range, and regarding man as living a life of relation and responsibility towards his fellow-beings in society, it enters into the vast chambers of law, there to consider and weigh the testamentary capacity of parties; their mental ability to form contracts of whatever name or nature; the rules regulating survivorship and life assurance; the physical competency underlying the domestic relations, and determining not only the rights of the actually living, but of their posterity; and lastly, criminal responsibility as affected by insanity or intoxication;—if we go no further than these facts, we shall be convinced, at the threshold of any inquiry into its philosophy, that no one can over-estimate or over-state the comprehensiveness of this field of multifarious investigation.

But law and medicine, although uniting in the production of this third science, cannot be said to hold a divided empire over its practice; for law alone is, and must ever be, the supreme arbiter of human actions in society, nor can she surrender her authority over the temporal accountability of mankind without at the same time surrendering her life and her essential prerogatives. The application of medical jurisprudence to the admeasurement of physical facts affecting the civil or criminal responsibility of parties, amounts practically only to this—that medicine furnishes the lights of her experience, and law applies them according to the established rules of her tribunals, and as modified by the equities of each particular case. Thus the aid of medicine is often invoked; she is even at times intrusted with the scales; but law always retains the sword, always retains the right of reviewing the judgement and prescribing the penalty. And this is but just, since it leaves either science to perform its destined part in the economy of human government: law, as the



heavenly appointed governor of man in society; defining what is right and prohibiting what is wrong; protecting the weak and compelling the powerful; scrutinizing the state of the mind, together with the intention, as the foundation of all human responsibility; deliberate and merciful in her judgments, swift and terrible in her punishment: and, on the other hand, medicine, walking like a Good Samaritan with the oil and balsam of philanthropy in her hand; guiding hood-winked justice whenever she explores the dark valleys of bodily or mental infirmity, and striving to mitigate the too rigorous application of legal canons, whenever weakness is mistaken for error, and disease is mistaken for crime.

#### HISTORY OF MEDICAL JURISPRUDENCE.

Before proceeding to investigate the philosophy of a science of such vast proportions, it may not be amiss to indulge in a brief retrospect of its history. That anything like a perfected system of forensic medicine, whose principles are founded upon the laws of our physical being, should have been completely formed before those fundamental laws were themselves discovered, is not to be believed. To speak of it, therefore, as an established science before the labors of Harvey, Vesalius, or Fallopius had broken the seals of rational anatomy, is to confound the narrow results of ancient observation with the grander explorations of modern times. The human mind, powerful and penetrating as it may be in research; reflective and logical as it may show itself in tracing analogies and elucidating principles, cannot erect systems by its solitary fiat. These are the offspring only of centuries, the accumulated labor of generations, each receiving, transporting, and in its turn transmitting the torch of learning to its successor, and thus, little by little, building islands and continents in the great sea of human thought.

Nevertheless, one very important branch of medical jurisprudence was unquestionably recognized and provided for in the legislation of antiquity; and this branch which was founded in that first of governing principles, the law of self-preservation, formed a true system of medical police even among the Israelites and the Hindoos. The frequent lustrations and isolations of the person, enjoined as part of the ceremonial law among those nations, converted a physiological safeguard against contagion into an act of worship, in this wise insuring its daily practice by all classes in the community. And so urgent was the necessity of personal purification deemed among a population proverbially unclean, and in a climate disposing to pestilence, that the Mohammedan was ordered to cleanse himself with sand wherever water was not to be had. From this incorporation of sanitary observances into the religion of the country, it followed that priests became the earliest custodians of public health, and it may be truly said, the earliest medical jurists on record. Their education, which was of the most extensive character possible at that day, included a thorough knowledge of medicine as then understood; and they were well qualified, therefore, to act as a sanitary police. They defined the civil status of the citizen by first defining his religious and ceremonial condition. If pure in body—then might he go at large into the streets of the market places—the temple or the synagogue; and contrariwise if impure, he was at once put under civil disability and isolation. Even at this day, in India, caste, rank, is forfeited by touching articles forbidden in the religious code, and the priest among the Hindoos is still in many senses the acknowledged lawgiver, as in ages past.

These were certainly wise enactments for those days of little knowledge, and well suited to that population



among whom the source of filth has been at all times inbred and irrevocable. They show too that hygiene is the earliest study, as it is the earliest necessity of mankind in society; and in appointing the priesthood to the guardianship of public health, they gave them control over one of the chief sources of public misery—destitution, vice and crime. When we peruse the laws of those nations living, as it were, in the gray dawn of time, and without the elevating advantages of intercommunication with other peoples: working out, with no inherited models of legislation, and no established codes of scientific truth, the great problem of national prosperity—when we see them promulgating laws whose wisdom seems far in advance of the civilization which gave them birth—laws whose outlines we cannot expand, all our multiform and wonderful discoveries only serving to contribute details and formulæ for their better and more economic administration—we cannot doubt that the scholarship of that day, as represented in its legislation, was something more than history has found materials with which to describe it. If the Israelites or the Egyptians could have laws enforced among them regulating marriage and the relations of the sexes—distinguishing between mortal and dangerous wounds in order to affix penalties—and prescribing modes of embalming and interring the dead—thus involving some of the most important questions in the sanitary police of communities, we must surely believe that they fully comprehended the necessities of such regulations to be founded in the laws of our physical being—in a word, that their legislators must have been physicians. And, we need not ask, after reading the ordinances of Lycurgus, or the physical rubrics laid down by Pythagoras and Plato, whether they too had studied the laws of our bodily life.

There is no evidence, however, that any union of the professions of law and medicine in any one science and as a branch of jurisprudence was contemplated by the more cultivated Greeks. Except in questions of medical police, medical men were not often consulted by the tribunals of Greece. In that country the chief concern of legislation was to secure a robust people, capable of bearing arms, and in their prevalent ideas as to the best mode of perfecting the human species, they were led to the barbarous and unscientific practice of destroying delicate, and rearing only strong infants. To perfect this dogma of their political economy, and to provide for the health of cities and camps by assuaging the virulence of epidemic diseases, formed about the whole scope of Greek state medicine. For, aside from the admirable treatise on Air, Water and Locality, left us by the father of medicine—a treatise which still influences the civilized world—no other contribution to the literature of that subject has come down to us. Whatever may have been the limited achievements of those days in forensic medicine, the opinions of Hippocrates and Aristotle upon certain physiological problems relating to the perpetuation of the species, have always carried with them an authoritative influence, not only in the schools, but with legislators, which succeeding ages have hardly extirpated. Many of the principles of the Canon Law, as formerly recognized in the Ecclesiastical Courts of Europe, were undoubtedly founded upon the crude speculations of these authors, and in particular of the Stagirite, whose *Organon* was the Bible of the schools of philosophy down to the time of Bacon.

But when we pass to Rome, we meet at once the spirit of her truest grandeur in the superior character of her legislation. As early as the reign of good king Numa, a law was enacted which was intended to pro-



tect the life of the heir, by requiring medical assistance in critical cases.\* And even before that auspicious day which saw the mighty lawyers of Justinian remodeling the jurisprudence of their country, the law of the Twelve Tables had made provisions of the wisest and most humane character in relation to the civil rights of posterity. The Romans who had imported their laws, as they had their arts from Greece, were almost exclusively guided in their legislation by the dictum of ancient philosophers; hence they very naturally incorporated into their jurisprudence the best models of morality and polity which their age afforded. Masters of the world, they readily subsidized its treasures, whether of art or philosophy, to the aggrandizement of their own glory, and the perpetuation of their own empire. Yet such was the petrified adherence of the age to the canons of the old masters; so much was it the rule to swear by established and mouldy authority—a custom whose practice even in the middle ages and among the schoolmen silenced every objection with the simple *sic magister dixit*—that in the Pandects of Justinian, where various titles† are created referring to crimes, physical deformities and questions of legitimacy, the courts were instructed not to be governed by the evidence of living physicians, (who might be most competent to explain particular points then at issue,) but to form their opinions exclusively *propter auctoritatem doctissimi Hippocratis*. Yet the creation of an *archiater*,‡ or state

\* This was the Lex Regia “*De Inferendo Mortuo*,” forbidding the burial of a pregnant woman until the fœtus should first have been extracted.—*Digest: Lib. II., Tit. 8.*

† These titles are “*De Statu Hominum, De Sicariis et Veneficis; De Inspiciendo Ventre, &c.; De Hermaphroditis; De Impotentia, &c., &c.*” *Instit.: Lib. 4, Tit. 18.*

‡ Code Theodos.: 12, 13.

physician, whose public functions corresponded to those of a modern health officer, who was himself court physician, and the acknowledged head of the medical profession, must have imparted to his opinions great weight with the judges, notwithstanding the institutional reverence for Hippocrates. And possibly his influence was not unwisely exercised over some of his royal patients, since we find an occasional relaxation in the rigorous construction of statutes, sanctioned by imperial edicts. If we may credit Tacitus, the bodies of Germanicus and Agricola were medically examined, and in the former slight traces of poison were noticed; but whether the autopsy was undertaken at the command of some tribunal and as forming a part of a judicial inquisition, does not appear.\*

In the confusion which followed the irruption of the barbarians and the downfall of the Roman Empire, we lose sight for a while of the workings of municipal regulations. The larger operations of war, conquest, and the foundation of new governments, overshadow all other considerations, and it is not until order once more reigns, and the thoughts of men can be concentrated upon the necessities of a system of jurisprudence, that we may expect to find the tamer studies of philosophy and legislation fixing their attention. In the whirlwind of savage customs which ruled society throughout western Europe during the dark ages, legal medicine could hope for no positive recognition. Its very sources were ignored, and its principles derided as a sacrilegious attempt to invade the secret haunts of nature; and in its stead ordeals by fire, water, or the judicial combat were introduced, as so many direct interrogations of the Deity. But the laws of a country, like its language, are not easily extirpated even by conquest; and it seldom hap-

\*TAC. *Annal.* Lib. 2, 73, and SÜETONIUS in *vita Caligulæ*, § 1.



pens that the civil legislation of a conqueror escapes the infection of local customs and language. For it is always easier to adopt a system of laws than to frame one, and the proud jurisprudence of Rome was of too practical as well as philosophical a character to permit of its easy overthrow by barbarian codes. Hence, the wiser conquerors were not slow in availing themselves of this fountain of justice. They drew largely from it, nor did they ever cease paying that homage to the laws of Rome which they had so emphatically denied to her Empire. It would not be difficult to show that the Roman law had authorized the calling and consultation of physicians before courts in difficult cases, and finding the same rule prevailing in the jurisprudence of the Ostrogoths, in Italy,\* and of Charlemagne,† in France, it is easy to conjecture the source whence the rule was derived. This brief sketch may be said to include the whole aspect of legal medicine as presented to us in the laws and legislation of antiquity. That it made but little progress—that it should have been extremely desultory in its application, and should have continued a weak and inferior adjuvant to courts—will be readily understood when we reflect that most of the physical sciences upon which rests its foundations, and whence its true life is drawn, had scarcely risen upon the horizon of human thought. No Harvey had yet shown that blood circulated through the arteries, instead of air. No Vesalius had yet established a rational system of anatomy based upon positive demonstration. No Boërhaave or Van Helmont had yet explored the mine of chemistry,

\* Theodoric, their King, delegated the care of justice to *consulars*, *correctors*, and *presidents*, who, says Gibbon, “governed the fifteen regions of Italy according to the principles, and even the *forms* of Roman jurisprudence.” Roman Empire, vol. 4, p. 21.

† Capitularies, 116, lib. 7.

through which Priestly and Lavoisier were destined to descend into the very penetralia of matter. Man's nature was still a sealed book, before which *flamen* and augur and oracle stood dumb, and over which law herself ministered with scarcely any knowledge of its contents. Whatever, therefore, may have been her errors, they were, at most, only the reflected errors of her day and generation; nor should those things be imputed to her as crimes which were done under sanction of the highest authority she could summon, and the fullest measure of light she could obtain.

It is generally admitted that the application of medical knowledge to jurisprudence, and the practical recognition of a science of forensic medicine, only commenced about the middle of the sixteenth century. The criminal code of the Germanic Empire, originating with Charles V., and enacted by the Diet held at Ratisbon, in 1532, (*Constitutio Criminalis Carolina*) is the first public recognition and the first legal application of the science which we meet with in modern history. This celebrated code, which still rules the proceedings of German Courts, enacts that physicians *shall* be consulted in all cases where death has been occasioned by violent means, whether criminal or accidental, &c., &c. And one of the first fruits of this new authority to medicine, was her successful encounter with, and overthrow of, many dominant superstitions, which had not only fettered the public mind in those days, but cost, as in the accusations for witchcraft, the lives of thousands of innocent people.\* The ordinances of the kings of France, subsequent to the days of Charles V., com-

\* "Wierus, a physician of the Netherlands, in a treatise "*De Præstigiis Dæmonum et Incantationibus*, Basle, 1564, combats the horrible prejudice by which those accused of witchcraft were thrown into the flames."—*Hallam*, Lit. of Europe, vol. 1, p. 289.



bined in the form of codes, what had formerly been only customs, a tribute to the wisdom of the German emperor, and an acknowledgment of the wants of their own jurisprudence. In 1606, Henry IV. gave letters patent to his chief surgeon by which he was authorized to appoint two physicians in each town, who in the nature of coroners should investigate and report upon all cases of accidental death. And in 1667, Louis XIV. decreed that in all criminal matters requiring reports, courts should be assisted by at least one of the physicians named by his chief surgeon. Of such binding obligation were all these ordinances upon courts, that a decree of the Parliament of Paris, in 1662, and of the Parliament of Dijon, in 1650, set aside judgments rendered without the intervention of medical experts.

The foundations of medical jurisprudence being fully established as part of the municipal code of most Continental nations, commentators and compilers of its canons, and the decisions under them, now began to appear in great number. With scarcely an exception, these early writers were physicians; the Italian and German schools equally dividing the honors of authorship. It would be out of place here to attempt to enumerate by name the multifarious treatises upon this science, in its various departments, which have appeared from time to time, and would render a mastery of its bibliography alone a burthensome undertaking. With this department, every medical jurist will of course see the propriety of at least a limited acquaintance, at some time; though it will be sufficient to say in this connection, that the number of its volumes is computed at 12,000,\* in order to make every one feel the necessity of a judicious selection from this great lumber-house, if

\* Hoffman's Course of Legal Study: vol. 2, p. 701.

he would wish to learn nothing for the mere purpose of unlearning it.

As a branch of instruction, medical jurisprudence is but a new comer in the schools; and as its first teachers were physicians, so its first altars were erected in medical colleges. Inasmuch, also, as its first seed was cherished in the bosom of the old Civil Law, so those countries first received it which had themselves derived the foundations of their jurisprudence from the same source. Haller's lectures on juridical medicine, which were published in 1782, indicate already the establishment of a chair of instruction in Germany, probably the first in Europe. In 1792, the first professorships of the science were created in the colleges of France, and in 1803, in the University of Edinburgh. And while no special instruction on this subject appears to have been given in the schools of England before the year 1820, it had already been made the subject of lectures in the United States as early as 1804. So far as can now be ascertained, the first lectures on Medical Jurisprudence in this country were delivered in the city of New York, and to the students of Columbia College, in the fall of 1804, by Dr. James S. Stringham, then Professor of Chemistry. This chair he filled until his death in 1817, when he was succeeded by the late distinguished Dr. John W. Francis, who occupied it until the year 1826. And although Dr. Francis' name does not appear as author of any treatise on medical jurisprudence, I believe I may truly say that he has been the most voluminous contributor of personal observations in this country, to that science, and has received less credit at the hands of those whose authorship he has assisted, than is generally known. It is a pleasure to be able to pay this deserved tribute to the memory of one who was himself not only the best of friends and patrons to



the humanities in our midst—the true Mæcenās of science and art in her metropolis, but did so much also to rescue the memory of every deserving brother from the effacing hand of time.

While Dr. Stringham was delivering his lectures on medical jurisprudence in Columbia College, Dr. Charles Caldwell delivered a course on the same subject in Philadelphia, during the winter of 1812–13; and in 1815, Dr. Beck was called to fill a similar chair in the Western Medical College. Since that time, and, advanced into prominence by Dr. Beck's encyclopædic work upon the subject, forensic medicine has been considered as part of a regular course of medical study, and most schools have accordingly introduced it into their scheme of lectures, though generally as a subordinate branch, and appendant to some other chair. At last, also, the law schools have recognized it in many instances, and adopted it as an adjunct science, collateral to, and not in the main line of required studies. Slowly and surely, however, it is working its way to that eminent position which belongs to it in the internal economy of government, for it is truly a part of the *Jus Gentium*—of the *necessary* law of every State, whether in its capacity of medical police, or of forensic medicine.

#### PHILOSOPHY OF MEDICAL JURISPRUDENCE.

The foregoing sketch of the history of this science prepares us to see that its rootlets are implanted in the foundations of civilization. Wherever civil society exists there is a necessity for this syncretism of law and medicine, which illuminates justice, and gives to legislation itself a higher character of scientific accuracy. The internal government of France, Prussia, or England, as compared with that of Turkey, Morocco, or Persia, in all those relations of life which require protection

for the weak—preservation of the public health—the equitable administration of justice—and the officious distribution of estates—in a word, the expression of a moral power in the State, competent, by scientific illumination, to administer justice according to principles, and not according to forms, so that the spirit rather than the letter shall govern in weighing human rights and human responsibilities—this moral atmosphere can be found only where civilization, aided by revelation, has developed its most consummate fruits.

The philosophy of medical jurisprudence is founded in the necessity of applying the laws of nature in the administration of justice, no less than in the preservation of the public health. In a large range of subjects it is occupied with the consideration of topics that are, strictly speaking, exclusively medical in character.\* Upon these the opinion of experts is final and conclusive. With the exception of insanity, physiological or pathological conditions of the human body do not generally occasion irreconcilable differences of opinion between experts. There is always some middle ground upon which they can meet; some acknowledged principle they recognize as fundamental, and about whose application alone they differ. But for the field of psychology, forensic medicine would be simplified into an investigation of physical laws having definite complexions, exhibiting few exceptional or contradictory signs, and amenable to something akin to positive demonstration of correlation between first causes and

\* In an article of this kind, designed especially for the columns of a journal of Psychological Medicine, I have felt myself authorized to omit all consideration of such subjects as *rape, abortion, infanticide, poisons, &c.*, in order to be able to dwell somewhat largely upon the topic of insanity, as one more germane to the character of the publication in which this sketch appears.



ultimate consequences. No link in such a chain of proof is even necessarily absent, because the efficient causes of material changes must in their very nature be material, and it is a question dependent very much upon experience in observation, whether or not we are able to trace the series of catenated influences which produce any ultimate effect. Some will see it, others will not, and because science imparts pre-vision, those who possess her experience can prognosticate. Without her light added to that of experience, we should hardly be able to push our investigation beyond the differentiation of effects, while causes would remain unobserved.

As we pass, however, from the world of matter to that of mind, we find ourselves very soon in the presence of manifestations for which there are no analogies in the former sphere. The law of proportion seems entirely dethroned. Trivial causes produce gigantic effects, and contrariwise, powerful causes produce wholly inadequate consequences. Is this a reality, or is it only phenomenal to us? Is it a fact without an appreciable manifestation on the one hand, or is it a manifestation subjectively exaggerated and without any postulate and objectively adequate cause? These perplexingly intricate problems in the realm of physio-psychology, have imparted to the science which undertakes to resolve them, a proportionally commanding character. And inasmuch as, in the administration of justice, such problems are frequently arising, to afford texts upon which legal logomachy can exercise itself illimitably, the opportunity for confusion of ideas and illogical conclusions is perhaps greater here than in any other field of human investigation. It is this fact more than any other which has given to questions of insanity such a portentous character before courts. For, if the entire sphere of man's civil or criminal responsibility may be modified by the mental

character revealed through his actions, it follows that as many interpretations as can be put upon those actions, just so many phases of responsibility will there be made out. All human responsibility turning, therefore, upon *mind* in the concrete, and as related to particular actions, the value of a science auxiliary to the administration of justice should be estimated according to the measure of good it can supply in this direction. The law looks to, and in fact employs, forensic medicine as in every sense *amicus curiæ*—a counsellor retained not in the interest of one party, but in that of truth generally; and the philosophy of this science as it has gradually been unfolded, has shown the essentially legal necessities upon which it rests. It is from its association with jurisprudence that it exercises so commanding a sway in the field of contested rights, remedies and responsibilities; and it is in that portion of it where mental unsoundness enters into the question of civil obligation, that we must seek for the reason of those principles which it furnishes to law as an illuminator of its pathway.

Law as a rule of conduct in human society pre-supposes the existence of rational beings, among whom the consciousness of civil relation exists.\* Law therefore pre-supposes reason, and reason implies a mind or intellect in which that function can be performed. In distinguishing man from all other animals by this heavenly gift, God has created within us a system of natural jurisprudence, of which conscience is ruler, and intellect the external minister and instrument. The first offspring of conscience is justice, “that gods and

\* Aristot. Polit.: Lib. 1, c. 2. In Homine optimum quid est? Ratio. Hac antecedit Animalia, Deos sequitur. *Ratio ergo perfecta proprium Hominis bonum est.* Caetera illi cum animalibus satisque communia sunt. Seneca, Epist. 76; Vid. Cicero de Offic.: lib. 1, c. 4.



men do equally adore," and the idea of justice implies obligation (*sum cuique tribuens*)—obligation in its turn involves responsibility. Therefore law, which is a rule of conduct measuring the responsibility of man towards his fellow-being in society, must, before defining the extent of his obligation, ascertain whether or not any foundation for that obligation or responsibility exists—whether or not the source or fountain of that obligation, the *recta ratio*, continues in its integrity. For it is clear that where there is no mind, there is legally no man; and where there is no man, rational and reflective, there can no law of responsibility apply. Such a being becomes simply an animal endowed with the *vis naturæ*, not the *jus naturæ*.\* Whence it follows, that the most important application of medical jurisprudence to the concerns of daily life, is that of ad-measuring the intellectuality of man with reference to a determination of his *civil* or *criminal* responsibility before the law. This must be considered its most important application, because it involves the largest number of interests, whether monetary, personal, or reputational. And since *property*, *personal security*, and *reputation* are the foundations upon which all civil government is built, that science cannot be of slight importance, whose practical application looks to a protection of these pillars of social progress and social prosperity. Now as the law considers the assent of the mind and the freedom of the will to be the indispensable prerequisites of every action entailing a perfect or an imperfect obligation, so it requires in every case of doubt, arising from exceptional circumstances, that the will should be proved free from duress, and the mind from disqualifying disorder. To prove the presence and the extent of disorder of the mind in any alleged case of insanity, is the contri-

\* Taylor's El. of Civil Law, p. 120.

bution which medicine presents, in the form of skilled testimony, to law; and, upon this testimony, law admeasures the civil or criminal status of the party in whose behalf this interlocutory plea is made. As this is the most intricate, so it is the most debatable problem in the whole science of forensic medicine; for it is in this department in particular that the medical jurist will find his talents most tasked, and his authorities most conflicting. Wherever extremes of mental deprivation, like *idiocy* or *general mania*, occur,

“Demoniac phrenzy, moping melancholy  
And moon-struck madness,”

there can be no question of the legal irresponsibility of its victims. *Mens peccat, non corpus, et unde consilium abfuit, culpa abest.* Such forms of disease are so patent in their outward manifestations that they silence, at the outset, all doubt and all discussion. It is far otherwise, however, with that numerous train of mental disorders, which, while existing obscurely excite no alarm, until some accidental crisis determines their explosion and their mastery over the entire intellect and the emotions. It is here that courts, losing themselves in the inextricable mazes of conjecture, require the assistance of experts, whose familiar acquaintance with the Protean shades of insanity enables them to weigh and gauge each particular case by a standard of its own. Had mankind been originally grouped into specific classes, each having its own peculiar mental disorders, and no other, we might indeed presume to frame a code of inflexible formulæ, graduated to the necessities of each class.

But nature has created no such arbitrary distinctions as these. She dislikes in fact all intrusive restrictions, all angularity of motion, of thought, and of feel-



ing; and even as in the physical world she delights to move in circles, and parabolas, and hyperbolas, so in the world of mind she gives each individual control over his own intellectual orbit, and allows him to extend or diminish its axes at will.

Were it possible to define insanity, which it is not, so as to bring it within the limits of an uniform symptomatology, we might easily dispense with the lights of medicine and of metaphysics in establishing its existence; but inasmuch as no two minds are alike, either in health or in disease, we are consequently driven to the necessity of inquiring, at the outset, into some of the general and most unvarying phenomena of intellection, in order the better to analyze and classify deviations from the average standard of health, in the operations of the mind.

The science of mental philosophy is so vast and comprehensive, its domain is so boundless, and our charts are so meagre and insufficient, that we may well hesitate as we enter upon the confines of that

“Dark,  
Illimitable ocean, without bound,  
Without dimension, where length, breadth and height,  
And time and place are lost.”

Through all the ages man has been grappling with the unknown and the infinite, and striving in a thousand ways to transcend the inexorable limits of finite intelligence. What is that inscrutable principle which we call MIND; which is akin to life, being never found without it, and yet is not life—which comprehends the universe in its grasp, and yet is not the universe—which makes destiny, and yet is not destiny—such is the great problem of our intellectual Cosmos which mankind have vainly sought to solve with their feeble

faculties. At this portal of the realm of mystery, speculative philosophy has been wearily knocking through all time for admission. There she has remained, summoning to her aid legions of followers from the wise and good of earth, they toiling, struggling, ever-hoping, all unconscious of having reached the Calpe and Abyla of mental exploration. And so the army of besiegers has steadily increased with the centuries—Aristotelians from the Lyceum, Platonists from the Academy, Cynics from the Cynosarges, Stoics from the Porch, and Epicureans from the Garden—all these meeting with Spinoza, and Hobbes, and Berkeley, and Locke, and Kant, and Comte, in one great army of embattling sages. But still the gate stands firm, unmoved, unshaken, as on that morn when light first sprung from chaos and ancient night. And the self-eluding *ego* which baffled antiquity has not surrendered its mystic *ens* to the more enlightened Positivism of modern times. Real progress in mental philosophy dates only from that time when mysticism and ontology gave way to an inquiry into the laws regulating the sensible operations of the mind. Passing by the *noumena* of intellection, and confining themselves exclusively to the *phai-noumena*, mankind have now learned to read lessons in psychology where formerly they knew not so much as its alphabet. They have attained unto wisdom by ceasing to inquire what the mind *is*, or where it is located, and by turning instead to study how it acts, and how it is acted upon. In fact they have learned wisdom by learning to confine their efforts and to limit their explorations within the realities and not the probabilities of mental operation.

And it is with the realities and not the probabilities of mental operation that the law is concerned. It is of man as naturally a rational being, and only exceptionally insane, that the law takes cognizance. Because also of



the difficulties which surround the application of principles of law to the regulation of the civil or criminal status of the insane, there has arisen a professional syncretism between law and medicine in the creation of this science of medical jurisprudence, whose most trying and tedious explorations are in the misty realm of mental alienation. There, law alone could scarce support herself by rubrics of logical deduction. And there, medicine alone could do no more than apply her gauge of health to manifestations of human conduct. Therefore is their union needed to say what the legal effects of certain physical facts shall be to the individual manifesting them and to the community at large. The cognation of the two sciences is in these essentials perfect; and their united application in cases of alleged insanity gives to jurisprudence the highest measure of moral certainty and justice which it is possible to secure.

With the mind in a normal state medical jurisprudence does not necessarily concern itself. The law needs no assistance there, nor are the resources of medicine invoked. But when disorder and discordance occur in its operations; when the equilibrium of a just balance between its faculties is so greatly and permanently disturbed as to announce an entire change in the habits of thought, feeling, conversation and conduct of the individual—when, comparing his present condition with that of previous months or years, we find him entirely unlike his former self, then it is that law interposes her equitable arm to protect him against the consequences of his own acts, or to shield society from the dangers of his unrestrained impulses. Such parties are considered as under civil disability, for where there is either absence or suspension or perversion of the reasoning faculty, there can be no legal assent of the mind to the obligation of a contract, or to the terms of a will,

nor does any criminal responsibility attach for offences committed. The insane are, as before the law, *civilly* dead.

Here, then, we come upon an exceptional class of citizens who, without being criminal, are yet, and of necessity, in custody and under some form of guardianship. They are said to be of unsound mind, or as the law more aptly describes them, *non compos mentis*; still it is not the mind, so much as its manifestations, which are disordered. It is a want of proportion and harmony between its faculties which occasions mental discord. A broken or exaggerated relation lying somewhere between the *noumena* and *phainoumena*, and giving rise to an *epiphainoumena*, in other words, an idea represented to the mind by a distorted or delusional symbol or image. Yet the mind itself must always be considered unitary in principle, one and indivisible, and although stripped of every faculty, capable of manifesting itself to our senses, cannot on that account be conceived as extinguished. Its avenues of communication with other minds may be closed by death or disorder, but that of itself does not prove its extinction. It may leave the body in which it has sojourned, when death assails the latter, and may and does in fact escape from the fetters of earthly union; but who believes that it dies, or suspends its activity from these causes? Who believes that it does not continue an individual and distinguishable mind throughout all eternity?

But aside from these dogmas of Christian belief, we must consider the mind in its relation to an organ, the brain, without which in a finite state we never find it existing. The brain, physically speaking, is the organ of the mind—the instrument through which, in human beings, the mind expresses its existence. And the chief glory of this organ is its endowment with a faculty



(*animal-sentient*) which no other created organ shares. Receiving a material impression, it returns a sentient impression, thus developing from a physical stimulus entering through the senses, an intellectual perception and apprehension. From this indissoluble connection of mind with matter, we perceive that there is a bond of sympathy between them, which more particularly reveals its presence in times of bodily suffering. Whenever the body is racked with pain, the mind concentrates its sympathy upon this condition, and refuses to be diverted from it. And when the degree of pain or of febrile excitement is exalted to its highest stretch, the mind often becomes so exquisitely sympathetic as to act irrationally—in other words, delirium sets in, for, in the language of Lear,

“We are not ourselves  
When Nature being oppressed, *commands the mind*  
*To suffer with the body,*”

or, as Lucretius also expresses it:

“Quin etiam morbeis in corporis avius errat  
Sæpe animus; dementit enim, deliraque fatur.”

—*Lib. 3, 464.*

From these premises we deduce two necessary conclusions, viz.: First, that *the dualism of mind and matter renders them mutually influential*; and Second, that disorder of either organism cannot long continue without affecting the equilibrium and health of the other. From these data we must conclude that mental unsoundness is not so much a disease of principle as it is a disease of relation—of relation between the functions of the mind themselves, and of relation between the functions of the mind and those of the body. Its seat is therefore in

the collective personality of our duplex nature.\* Granting this to be true, we are at liberty to take sides neither with the *somatists*, nor the extreme *psychologists*, but avoiding both in the search for a golden mean, we can safely rest our conclusions only upon the doctrines of an *intermediate* theory, (*in medio tutissimus ibis.*) This appears to be the only true and orthodox rationale which the calm, deliberate judgment of the present day adopts in explanation of mental unsoundness.

It would not be difficult to show that insanity, as a form of disease, was recognized in the earliest days of the medical art; nor that it excited, as it does now, the attention of philosophers, poets and legislators. Were I to yield to the temptation which here presents itself, of making an excursus into the fields of psychological literature, I could easily consume the space allotted me in selections and illustrations drawn from one of the richest and most captivating store-houses of history. It must suffice in an article like this, and when only the philosophy of a science is to be discussed, to mention a few names, in order to recall to the minds of classical scholars the characters of insanity which they represent. The feigned madness of Ulysses, which Palamedes discovered; that of Ajax, who mistook a flock of sheep for the sons of Atreus; that of Orestes, pursued by Furies; or that of the heaven-inspired Cassandra, all show that the old poets well understood the physiognomy of insanity. In the field of hallucinations, in particular, the student will find everything that the most ardent imagination could desire, all in fact that novelists, poets and metaphysicians seek for in the mys-

\* Feuchsterleben, Med. Psych.: § 123; Brodie, Psych. Inq.: London, 1854; Falret, Leçons Clin. sur l'Alien: Ment. Lec. 1, p. 8, Paris, 1854.



tical and inscrutable essence of our emotions.\* And he will there learn how the epidemic religious lunacies which swept over Europe during the middle ages—the Pastoureaux,† the Flagellants, the Bianchi, the ecstasies of the Cevennes, or more lately the *Vampirism* of Hungary, Moravia, or Lorrain, and the *Mommiers* of Switzerland—all arose out of an expansion of those mystic ideas, which, among the ignorant and uneducated, are ever struggling to crystallize themselves into forms of religious ceremonial. And, among the aberrations of great intellects, ever treading on the confines of insanity, if we may credit the philosopher of Stagira—that, *nullum magnum ingenium sine mixtura dementiæ*, or, as Dryden has gracefully paraphrased it,

“Great wit to madness nearly is allied,  
And thin partitions do their bounds divide.”

Among these infirmities of genius, the inquirer will find himself well rewarded by studying the Demon of Socrates,‡ the Amulet of Pascal, the imaginary chorus of Paracelsus, the contests of Luther with Satan, the visions of Mahomet, Swedenborg and Benvenuto Cellini; all exemplifying true manifestations of that *hallucinatio studiosa* which is born of an over active

\* Brierre de Boismont *Des Hallucinations*, &c. Paris: 1852; Eusibe Salverto “*Des Sciences Occultes*,” &c. Paris: 1856.

† Hallam’s *Middle Ages*, p. 464; Du Cange, *Pastorielli et Verberatio*.

Vid. Horat. *Epist.*: Lib 2, 2, 128, for a most beautiful description of a hallucination.

‡ On this very interesting question, which has exercised the educated mind of the world for centuries, vid. Xenophon’s *Memorabilia*, Plato’s *Apology*, *Banquet*, &c., Plutarch on the Demon of Socrates, and a review of these in a recent work entitled, “*Du Demon de Socrate*,” par L. F. Lelut: Paris, 1856.

and heat-oppressed brain. But, for the most life-like delineations of insanity in any language, we must turn to Shakspeare, whose psychology is as perfect in all respects, as though it had been written by one who had made insanity the study of his life-time. Surely, no master of the human passions has soared nearer the sun than he, and none so deftly limned, in all the variety of their manifold aspects, the sad aberrations of the distempered intellect. Whoever has thoroughly possessed himself of those master-pieces of dramatic excellence that form the characters of Hamlet, Ophelia, Lear, Macbeth, Timon of Athens, or the melancholy Jaques, has taken a deeper lesson in the mysterious features of mental disorder, than all text books, or reports of insane asylums can impart to him.

As a disorder overpowering the will and deranging the manifestations of the mind in its postulate perceptions, insanity has been well known and equally well described in all ages. And its disqualifying effects upon its victims, in all acts involving a civil or criminal responsibility, has ever been recognized in the jurisprudence of civilized nations. The laws of the twelve tables made provision for the guardianship of *lunatics* and *prodigals*, and the enactment was repeated in the Institutes of Justinian.\* The law of England and of our country has always regarded with peculiar and tender solicitude, persons laboring under mental unsoundness. Hence, their *contracts* and *wills* are always deemed voidable, according to the degree of incapacity of their understanding, and their actions entail no criminal responsibility, whenever it can be shown that the mind was not capable of judging of the true nature of the act committed. This question of the degree of in-

\*Table V. *Si Furiosus est*, &c; Inst. lib. 1, Tit. 13, 26; Horat. Sat.: lib. 2, 3, 214.



capacity of the understanding, has given rise to much discussion in courts. It has divided opinions upon the subject of mental unsoundness into two classes, and driven either side to extreme views. There are those who, planting themselves upon the unitary and indivisible character of the mind, assert that there are no degrees in insanity, consequently no *monomanias*, and no partial insanity. With them it is total insanity or none at all. Others again believe that monomanias can exist as accompaniments to minds otherwise healthy, so far as human art can detect; and except one particular illusion, producing aberration of the judgement with reference to itself, competent to reason correctly upon all other subjects. If this be admitted, then we hazard nothing in asserting that in many instances monomania cannot be distinguished from exaggerated eccentricity, and may therefore be mistaken for a disease, when it is in fact only the natural habit of mind; as we say of one man that he has a poetical mind, and of another a mathematical mind, both being *eccentric* and diametrically opposite, yet neither state arguing insanity *a priori*. It is this extreme difficulty of determining what amount of individual dissimilarity any person shall be allowed to exhibit in his opinions and conduct, as against a certain arbitrary and conventional standard, having only a local or temporary character; it is this difficulty of determining how far a man has a right to be himself, without incurring the imputation of being insane; which renders the doctrine of monomania so illogical. For, in its strictest application, it is sufficient for any one to be unfashionable in garb, demeanor or opinions, to be at once decreed insane; and the only standard of mental health recognized therefore would be one never originally created, viz.: entire uniformity in all things between all men.

This doctrine of partial insanity it has been the province of medical jurisprudence to interpret to courts in such a way as to convince them of its fallacious character. And while American courts are still said to admit its existence *eo nomine*, they certainly have not in their rulings treated it as a form of true mental unsoundness. All their decisions, whenever this point has been mooted, have glazed over the significant principle that the law cannot concern itself with *degrees* of insanity, to say instead, that, wherever the subject matter of the transaction, be it contract or will, is not infected with insanity, the act, even of one alleged to be partially insane is only voidable, and not *ab initio* void.\* In England this was also the rule repeated and reaffirmed in all those decisions which have immortalized the name of Sir John Nicoll, nor was it ever questioned until the year 1848, when Lord Brougham, in a case before the Privy Council, ruled that it was erroneous to suppose that a mind established to be partially insane, could be really sound upon any subject, and therefore competent to make a will. This decision was the first introduction of a purely medical and psychological dogma into the elements of a legal judgement, and while abstractly correct, has not yet secured general recognition in our courts. Nor is this surprising, since under this ruling great hardships might occur, and great wrong be done in the sacred name of Justice. For, were Lord Brougham's

\*“ Courts in passing upon the validity of a will do not measure the extent of the understanding of the testator, if he be not totally deprived of reason; whether he be wise or unwise, he is the lawful disposer of his property, and, his will stands as a reason for his actions. A man's capacity may be perfect to dispose of property *by will*, yet inadequate for the management of other business, as for instance to make contracts for the purchase and sale of property.”—*Stewart's Exrs. vs. Lispenard*, 26 Wend. 255, and reaffirmed in *Blanchard vs. Nestle*, 3 Denio, 37.



dictum\* strictly applied, and assuming delusion and insanity to be convertible terms, any individual occasionally visited by a hallucination, which Donne describes as “eclipses, sudden offuscations and darkenings of the senses”—such in fact as visited Luther, Swedenborg, Pascal, Dr. Johnson, &c.,—would be deemed incompetent to perform any valid testamentary, or other legal acts. According to this view, hundreds of minds competent to transact business would be denied the right of finally disposing of their estates.

It must be evident to all that if we could extricate ourselves from the confusion of terms, and rightly understand the true import of the term insanity as necessary to be recognized at law, we should not disagree practically, upon that to which, theoretically, we can all subscribe. We must know at the outset whether we use the term abstractly and absolutely, or relatively to some particular transaction. Speaking abstractly of any two opposite qualities, like health and disease, it is unquestionably true that both these conditions cannot coexist with reference to time and subject. They mutually exclude each other in one of these particulars. Thus, and as an abstract moral proposition, we are either good or not good, and if not good, then bad. And, speaking psychologically, we are either sane or insane, if not the one we must be the other. And yet it is also true that *apparently* we may be both sane and insane at the same time in relation to different subjects,

\* “We are wrong in speaking of partial unsoundness, we are less incorrect in speaking of occasional unsoundness; we should say that unsoundness always exists, but it requires a reference to the peculiar topic, else it lurks and appears not. But the malady is there, and as the mind is one and the same, it is really diseased, while apparently sound, and really its acts, whatever appearance they may put on, are only the acts of a morbid or unsound mind.”  
— *Waring vs. Waring*, 6 *Moore, P. C. Cases*, 349.

as we may be truly sane, and again insane at different times on the same subject. According to Sir John Nicoll,\* this principle was long ago recognized by the law of England, and formed the foundation of all adjudications in cases of partial insanity. Nor can its correctness be doubted. The history of religious lunacy abundantly proves that the followers of fanatics and enthusiasts, during their continuance in the bonds of delusion are, none other than insane, while in other respects *apparently* sane; and when recovered from their delusion will it be pretended that they can never afterwards entertain sound religious views? Will it be asserted that a Thug or a Parsee when he casts off the slough of his old creed can never become a Christian? Or shall every Millerite and Mormon be deemed incompetent to make a will or a contract, though in other matters sane enough? These are the ends to which abstract and absolute constructions of principles would lead us. But neither law nor medicine deal in abstract propositions. The science of numbers can avail them nothing in determining the laws of our physical or moral nature. For Justice in her inquests upon human conduct considers the individual *relatively*, and under the light of moral evidence. In weighing his civil or criminal responsibility, it weighs all his surroundings, his age, his infirmities of body and of mind, the influences to which he has been subjected, together with the motives for acts. In none of these things does it pre-judge him, but on the contrary exacts evidence in support of them all. Therefore, and regarding the majority of men as sane it presumes them to be so until the contrary appears. And whenever alleged insanity occurs, its effect is required to be shown before the individual shall be deprived of his civil rights; since no

\*Dew vs. Clark, 1 Addams, 279.



presumption of insanity follows from proof only of great eccentricity, and even in what is called partial insanity, before courts, an individual has rights of which the law will not wantonly deprive him;\* and contrariwise, incurs responsibilities both civil and criminal, from which he cannot escape.†

But the greatest difficulty encountered by medical jurists in the field of their labors before courts, has been in the department of criminal law. As the philosophy of forensic medicine rests upon the necessitated aid of Medicine to Law in questions of human responsibility, so it has had, as a dual science, to contend, in a measure with both of its parents; at times taking sides against one, and subsequently against the other. The French school of psychologists founded by Pinel, has the merit of advancing the knowledge of insanity to a degree not previously possessed; and of ameliorating the treatment of its victims so as to secure the greatest possible benefit from rational medicine, if an increased number of recoveries be any test of successful therapeutics. But that school also introduced an apple of discord into the forum of juridical medicine, which, while it has immortalized its name, will yet be looked upon in each passing year as the most dangerous error and specious stumbling block ever placed in the pathway of justice. In fact it is the most remarkable illustration of how far the reverence for a name can silence criticism, and how easily even the logistics of jurisprudence may be made to contradict themselves, by courts too readily accepting dogmatic assertions for positive conclusions. It is hardly necessary to say that we allude to the doctrine of *moral* insanity. If we examine the physiognomy of this

\* Stewart's Exrs. *vs.* Lispenard, 26 Wend. R., 255.

† Commonwealth *vs.* Rogers, 7 Metc., 500.

psychological sphinx and read its character in the words of one of high authority, we shall only wonder the more that any court should ever have allowed it to be discussed as a possible entity within its walls. In these cases, says Dr. Winslow, "the person manifests no mental delusion; is not monomaniacal; has no hallucination; does not confound fancies with realities; but simply labors under a morbid state of the feelings and affections, or, in other words, a diseased volition."\* But this last sentence is hardly finished: it should have terminated with the proper inference to be drawn from this critical description, in the only words applicable to the case, viz.: *and is not insane*. Of course not. Why should any man who so nearly resembles the majority of mankind as to be practically undistinguishable from them—why should this man *in particular* be called *morally insane*? Are not all Adam's offspring more or less morally insane? Where's the perfectly healthy moral nature among us? Judged by so elastic a system as this, why bring the plea up in behalf of the prisoner, when it is just as easy to accuse the Court itself of insanity, and demur at once to its jurisdiction? The description of a moral lunatic given above might suit the judge, the jury, the district attorney, the witnesses; any one in fact whom we may please to consider as having acted from irresistible impulse, and without rational motives. The door being once opened to such a plea as this, all human responsibility ceases—Satan himself becomes converted into a simple moral lunatic, and vice, like its father, appeals to our tenderest pity. Vice in fact ceases, or by substitution of names and perversion of principles passes into a disease and a misfortune.

But why use the term *moral* at all, in speaking of insanity? Insanity by itself is a sufficiently expressive

\* Plea of Insanity, p. 43.



term, and if any one be insane, he is none the more so for being *morally* insane. If the adjective were simply superfluous in this connection, no harm would ensue from its use; but it is precisely because the term is meant to express a state of mind of which there is no collateral nor even direct symptomatic evidence, that its introduction into criminal jurisprudence has been so strongly opposed. Nor can this be matter of surprise to those who recognize the binding obligation upon courts of the principle underlying the well-known maxim, *De non apparentibus et non existentibus eadem est ratio*. In pure consistency with this key-stone in the arch of all legal evidence, no tribunal can otherwise rule than that the plea of *moral* insanity, as based upon the description of a state of mind in which all the ordinary symptoms of insanity are absent, is an illogical and fallacious one, self-contradictory, and containing its own best refutation. The first part of the plea admits that the person exhibits no evidence of intellectual derangement—no insanity in fact—while the second part raises a special traverse to this, by denying that the ordinary conclusion of such a premise should follow, and asserting instead, that, granting all the foregoing disproof of insanity, the person should still be considered insane, not in the common, ordinary way, belonging to vulgar, *organic* causes, but through some metaphysical disturbing force which acts alone upon the *will and the affections*. We admit that the doctrine is exceedingly erudite, so recondite in fact as to find no legitimate place within the pale of so pragmatic a science as Jurisprudence. Like the doctrines of *con* and *trans-substantiation*, the dogmas of homoiousian or hypostatic believers, or problems relating to the future state of disembodied spirits, it is a doctrine more suitable for a senate of theologians than a jury of laymen. It belongs

to the middle age—the metaphysical period, as M. Comte would style it—of Forensic Medicine, but is fast giving way to that inevitable positivism, which, in the history of mental progress, always marks the attainment of a broad table-land of truth, and the building of the last, permanent foundations of any science.

It would be well, therefore, if the term *moral* insanity, which at law is only an *ignis fatuus* leading us into byepaths and labyrinths of confusion, could be interdicted in our courts. And yet it is probable that we shall not immediately be able to shake off the bonds of this captivating designation, inasmuch as there are rulings upon it which turn precisely on the distinction between moral and intellectual operations in the mind. “Shadowy, fluctuating and indefinable” as is the boundary between these two mysterious realms, Law has still been compelled to search it out; and although she has walked onwards, groping her way through the dark, like Virgil’s hero exploring the way through Hades,

“Quale per incertam Lunam sub luce maligna  
Est iter in sylvis,”

in vain endeavors to find the coveted line, she has only returned disheartened to plant herself upon the dogma that “moral insanity is always preceded by an efficient cause of mental disease,” and that, where no organic changes or delusions of the intellect are present, it is impossible to distinguish it from vicious propensities.\*

In its slighter manifestations, therefore, it is emphatically an enigma, a sphinx, which even the most expert medical Œdipus cannot always unravel; and until radically established in the moral system, it hovers long on the confines of disease and depravity. Hence,

\* Bucknill and Tuke Psychological Med., p. 328.



the law heretofore, without absolutely rejecting this doctrine of disease, has received it with caution and hesitation, because its boundaries are so indefinite, and its application in practice is open to such irregularities and contradictions of construction, that no rule of action can be framed upon it. It is in fact the true legal chaos;

“Non bene junctarum discordia semina rerum.”

The part which must thus be taken by forensic medicine against moral insanity will prove in its consequences of lasting benefit to the administration of criminal justice. This is a duty it owes to both sciences of law and medicine, for in its bosom alone can an union occur between them, and that union will always remain impossible, so long as a purely metaphysical dogma, espoused by medicine as a canonical principle in its interpretation of insanity to courts—is attempted to be forcibly and illogically introduced into the administration of justice. The reasons for this antagonism to the doctrines of Pinel we have already shown, nor do we think its warmest advocates can fail to admit that it is daily losing ground in the scientific world. There must be some good cause for this. Prejudice alone was never sufficient to dethrone a principle of truth once crowned in the temple of science. For the recoil of a truth momentarily oppressed, invariably carries it beyond the reach of future cavil. Such has not been the case with moral insanity. Slowly receding before the increasing lights and logic of medicine, it is fast surrendering the field usurped by it, nor can that day be far distant which shall see it entombed among the errors of the past.

One great duty yet remains to the medical jurist in questions of insanity before courts; the greatest and

most difficult perhaps of any undertaken by him, and one too, whose proportional advantages to the administration of justice, can be measured only by the multitude of human relations in which it presents itself. We mean the duty of expounding to courts the utter fallacy of making the knowledge of right and wrong a test either of sanity, or the foundation of human responsibility. It is Pascal who wisely says that morality is often but a question of latitude, so that what is right on one side of the Pyrenees is wrong on the other. And every age and country will bear witness to the fact that right and wrong are questions of feeling as well as of reason, and regarded by men variously, in the abstract, no less than in the concrete. Individually, too, the innate sense of justice which moralists assert dwells in every one, is always subordinated to laws of temperament, disease, or influences of education. The knowledge or conviction of right and wrong is separate from other pure mental states, with which it may or may not sympathize and suffer. Hence, it is not necessarily, nor wholly destroyed in insanity. And its presence should not be taken as evidence against the existence of such a state; for it may coexist with the most perfect delusion. The bridge which unites the abstract to the concrete may be broken in some part, and the mind which knows right from wrong in the universal sense, may not be able to trace or follow its application out, in a particular instance. This is the quicksand in which courts are too apt to bury themselves, concluding that if a man knows right at all, he knows and feels its binding obligation in every particular instance, and the same may be said of wrong. Whereas, in fact a case of insanity seldom exists in which there is not such knowledge, and where too, (as always appears most incongruous to a layman,) reason is not found in juxtaposition with unreason;



precisely as a man with a broken leg has some power of motion still, although the fulcrum upon which the muscles exert themselves is wholly impaired; in other words the muscles may act independently of the bone, but in such case they act at random. The knowledge of right and wrong as either a direct or a collateral standard of mental health, and consequent responsibility before the law, must be abandoned. It is of no more value in fact, than the knowledge of one's own personality, and few indeed among the thousands of lunatics who fill our asylums, do not possess that. It is a sign of little value in any case, and has, unfortunately for the cause of justice, always been unduly magnified in importance. Let us learn wisdom with the passing years. The province of a true philosophy is to point out the errors which, descending to us under the majestic cloak of precedent, still fetter our judgments, by first blinding our eyes. We must criticise, then, whatever commands our obedience, in order to ascertain whether it be justly authorized to do so. If its title to prerogative authority be good, it will court, rather than shun a rigid scrutiny; but if on the other hand its title be usurped, the sooner the fact is exposed, and the fallacy exploded, the better. This is the grand and solemn duty which is assigned to medical jurisprudence, a duty only to be discharged successfully by the concurrent action of law and medicine. From this imperfect panorama, it will be seen, that there are grave responsibilities resting upon both professions in their disposition of the divided empire of insanity. There are mutual obligations to assist—not to resist—each other's progress here; nor, because their paths are not always parallel, need they greatly diverge. There are mutual concessions to be made, which derogate in nothing from the dignity or the merits of professional legends. There are concessions to be made to

medicine—that Divine art than which, says Tully, none brings men unto a nearer resemblance to the gods, because she holds the vantage-ground of physical exploration—because she bears the only torch that can light us in our way through the misty realms of disease, and thus lends the opulence of her experience to the task of nicely adjusting the measure of our mental capacity. Bravely and sincerely have her ministers labored in this field of mystery; zealously and disinterestedly have they sought to bring a higher measure of light, and a truer interpretation of the results of mental infirmity, into the deliberations of the Forum.

“ And for the testimony of truth, have borne  
Universal reproach, far worse to bear  
Than violence ; for this was all their care,  
To stand approved in sight of God, though worlds  
Judged them perverse.”

And there are concessions to be made to the majesty of law, to whom “all things in heaven and earth do homage;” and to whom also by right of primogeniture, belongs the government of man in society. It is to her, the only bulwark against “the desolating flood of wild misrule,” that we owe our liberties, our social security, peace, progress and prosperity. It is to her, the calm impassive goddess whose shrine is *reason*, and whose temple, “orbed in a rainbow” of truth and justice, is closed against no suppliant, however weak, that we look for the secure enjoyment of all those temporal blessings which spring from industry and thrift. ’Tis wise, then, that her jealous conservatism sanctions no sudden or wide departure from well-tried experience, but while drawing to herself the lights of kindred learning determines the extent to which she will employ them. For the safety of all jurisprudence depends upon an enlightened and moral judiciary; one



“ Whose blood and judgment are so well commingled,  
That they are not a pipe for fortune’s finger,  
To sound what stop she please.”

But fortunately there is a middle ground, equidistant from all ultraisms and citraisms, where both professions can meet and join hands in their final judgment upon this branch of municipal law. This ground is already well marked out in the recorded decisions of our courts and those of England; there is no reason why, for the present at least, it should be altered. There may indeed be occasional differences of opinion as to whether some enlargement of this ground should, or not, be made so as to include an extraordinary and exceptional case. Instances may occasionally happen where a mistaken zeal or humanity, seeks to force established opinion beyond the limits of rational, moral evidences; and not succeeding in this, professional pride is wounded and writhes under defeat. But these are only differences of individual opinion, and should carry no weight as against the sodality of law and medicine. Instead of leaving rankling memories behind them, they should be like Hooker’s anger, only “the momentary bead upon a phial of pure water, instantly subsiding without sediment or soil.”

## LAST WILLS—UNSOUND MIND AND MEMORY.

The force of a last will is wholly conventional. The moment a man dies, all his right to property dies with him. As he came into the world, so he goes out of it. Whatever he acquires from his birth to his death is his for possession, for maintenance, for enjoyment, for dutiful contribution, and for free giving, as he goes along. It is at his disposal, so long as he lives to dispose of it. When he is dead, his natural powers and rights, whatever they may be, die with him, and "there an end." This is the state of the case simply and absolutely.

But man leaves behind him when he dies, not only all his possessions, but usually children, or parents, or brethren, who are either in a state of dependence upon him, or so intimately connected with him, that the first spontaneous suggestion of the social state is, that they should have the benefit of his industry and his acquisitions; and, therefore, the first custom or law of a social state is, that they, in a certain gradation of ties, and perhaps, too, because they are in the actual possession, should inherit and enjoy his property; children first, and, failing these, then the nearest of consanguinity. That there is a touch of natural and instinctive feeling in this, is witnessed by its universality, even amongst the most unconventional savage tribes. It is wholly independent of any expressed will or direction of the deceased person, or any attempt of his to regulate the descent or distribution of what he may leave behind him; but so strong is the presumption of such an instinctive intent of his, that, to this day, such a disposition is made by general usage or by positive law, in most civilized countries, in cases of intestacy, as the



disposition which would most surely accord with the wishes of an intestate, had he lived to express them.

The right to make a will, particularly one conflicting with this congenial sentiment, that shall have a posthumous vigor and be any wise obligatory, is, therefore, not a pure natural right. Possession, which was probably the first recognized right to anything, and is still claimed to be "nine points of the law," was commonly in favor of the family of a dying man; and nothing but superior force, in the primitive stages of society, could dispossess them. As there might be more than one descendant in such possession, the question would obviously arise which one should be *in loco parentis* and take the whole *relicta*, or whether all should take equally; or whether all the brothers alone; or the sisters equally or in some other proportion with them; or all the sisters alone; or the elder or the younger son; should take the whole, all being, at the death of the common ancestor, in common possession. The dispute which such doubts and rivalries would occasion, would naturally suggest to the possessor of property the idea of making some equitable disposition of it, to be effective after his death. He might, indeed, distribute it among them absolutely during his life time, by present gift; but then he would stand in King Lear's danger; for he might have unnatural sons and daughters, who, after getting his possessions, would oust him from the enjoyment of them, and reduce him to the nakedness of his birth, long before the natural period for the inevitable nakedness of his death.

As social states matured, various customs sprang up, and governments began to assume different forms, demanding differing rules to regulate the possession, ownership, transfer and inheritance of property. The rules also varied regarding rights to the soil, and rights

to personal effects—to what was permanent, and to what was transitory. Without pursuing the history of these diversities, it is sufficient to say that, as a general custom or law, the property of the father of a family descended to one or more of his children, with certain possessory rights to a surviving wife; until, finally, the power of disposing of property, at first, the personal, and then the real, by a will of its owner, expressed more or less formally during his life time, became, in all civilized countries, a generally allowed and legal mode of conveying it.

But this power when finally conceded, was never without some restraints, the badges of its conventionality, and of its subservience to positive, rather than natural, law. Indeed it is, and always has been, (formerly more than now,) so various in various countries as to extinguish the idea of any instinctive feeling so prevalent and uniform as to confirm the theory of a natural right. In England, until Henry VIII., a man could not make a will of real estate, except by a clumsy evasion of the common law in the guise of a conveyance to uses; and in this country, the details of the law of inheritance and of wills differ sensibly in the several States; all concurring, however, in such a general preference of the family and descendants as goes far to countenance the conviction that inheritance is really more of a natural right, than the right to make a will disturbing it.

Yet the power to make a will giving a different direction to the posthumous course and disposition of property, is of such long and universal allowance, that it is now almost as strong as if it were a natural right, like the right to breathe, or the right to work. "Is it not lawful for me to do what I will with mine own?" is a triumphant interrogation affirmative. Even natural rights, however, must, in the social state, submit to



much clipping and shearing to make them decent or sufferable. We do not tolerate the natural right to go naked (except in ballets and bagnios,) nor the natural right of a promiscuous intercourse of the sexes, nor the natural right, so claimed, of suffrage, nor the natural right of the strongest to appropriate whatever comes in his way; although it must be confessed that we are restiff under some of these restraints, and are prone to antiquate and cast off many respectable conventionalities, and much positive law, particularly if it be of the Decalogue; as if savage life were, after all, the only free life; and a state of nature, on the whole, the easiest, as it is the most slipshod, of human conditions.

The testamentary power thus being, for any binding force it has, the creature of the law, the legislature must be quite competent to modify and regulate it according to the exigencies and policy of the state; and, amongst other things, to prescribe what condition of mind shall exist to give effect to any declaration in the nature of a will, and what indications shall be deemed, on the whole, as evidence of the state of mind prescribed. It is quite its right to say that any will that overlooks the common claims of wife, children, or near relatives, shall be void; but such an oversight need not therefore be set down to the account of any unsoundness of mind or memory. It does say now, in some States, that no will made *in articulo mortis*, or within a given period next preceding death, shall be entirely valid if it gives to charities, or out of the family, more than one-third or some other reasonable portion of the estate: it is a void will as to that particular devise or bequest; but this cannot be for unsoundness of mind, as that would taint the whole will, which is not the purpose of the law; but the purpose is to prevent a wrong to the family of the testator, and counteract the influence of superstitious

or perverted feelings over him, at a moment when his faculties may be fluttered by apprehensions, or when he may be overpowered by vexing and pertinacious solicitations. It provides that a will, however sane a man may be, which is extorted from him, or which he is cheated into, or which he makes when drowned in his cups, and his memory is a "fume," as Macbeth expresses it, shall be deemed no will; that it shall not be valid, if it makes no provision whatever for his wife and children, unless they be otherwise sufficiently provided for; and all this, without any necessary impeachment of the testator's sanity. It is evident from the adjudged cases, that the struggle of the law is to thwart, on every possible ground, every testamentary disposition of property that unnaturally disregards the common claims of kindred; and, at the same time, to tolerate and sustain every free disposition of it that does not wholly evade those claims. The least decent acknowledgment of them preserves the vitality of a will that is otherwise sound; and if the testator have no such claimants on his good remembrance, an endowment for favorite horses, dogs, and cats, or for a hospital at Joppa or Jericho, or for almost any other odd purpose under the sun, (if not too much under the moon,) will not of itself impeach his testament as for unsoundness of disposing power.

The general right to make a will being conceded as a social necessity or convenience, most of the practical legal questions touching the validity of wills, aside from mere questions of form and technicality, respect the real soundness of the *mind and memory* of the testator. The cases embrace almost all the infinite vagaries of the human mind, ranging from the weakest imbecility to the most errant and extravagant fancies; and hardly one of them, from the simplest to the most complex, has escaped some sort of judicial criticism and settlement.



Of course it is impossible that any inflexible rule or statute should be at once comprehensive and minute enough to meet all the equities of such a variety of cases, depending upon a just insight into the actual capacity and motives of ever-versatile human minds. They are better capable of being fairly settled, individually, as they arise. Some equitable and adjustable process is more likely to hit the truth of each case than any general constricted formula. It is doubtless a good general rule, and it is therefore a rule of positive law in most countries, that a man of unsound mind and memory is incapable of making a will. But the same positive law does not venture any farther with its absoluteness, perceiving the invincible difficulty of defining its terms; and the judicial tribunals are wisely left to construe, adapt, and apply it. The common law is more elastic for this purpose than any statute; and its adjudications, although often enough conflicting, are on the whole more satisfactory in the particular cases, than the Procrustean rule of a legislative act. The one considers each case by itself, and under its own distinctive lights and shadows; the other strikes a particular level, above and below which there are many cases that must be uncere- moniously and arbitrarily gauged to the standard. The vagueness of the term "unsoundness of mind and memory" leaves room for impeaching almost every testament made during sickness or weakness; and exposes the decision, in consequence of the uncertainty of the standard, to everlasting doubt as to its exact or even approximate justice. This is an inevitable infirmity of all human tribunals.

There are some hesitating and uncertain minds, wavering, as an apostle says, like a wave of the sea, that really never exactly know what their will is; and, after a formal testament is made, are by no means so satisfied

that it is their real will, that they are quite willing that death should irrevocably seal it: it is difficult to say of them that they ever had a positive decided will of their own. Yet the usual formalities suffice to make the testaments of such persons valid: legal unsoundness of mind cannot be predicated of them. Others there are whose will is determined enough, and evident enough; but it is so perverse and unpliant, that whatever it has fixed upon cannot be swayed to any measure or terms of moderation, or what is commonly called reason: the mind so runs upon one purpose of partiality or prejudice, without any fair doubt of the mental power, or of the disposing mind and memory, that its will must stand for the law of that case, however unjust, and, to the common sense and feeling of men, however unreasonable.

So that the testaments of some sane men, as full of absurdity, and eccentricity, and unjust feeling as the testaments of some insane men, are legally valid, while the others are invalid: nay, the sanest wills of insane men stand no sort of chance with the insanest wills of sane men. It is one of those anomalies that betray the incompetency of human jurisprudence.

But although a broad rule of law may be a good and safe general maxim, and yet fail to meet all the cases within its sweep, thereby showing its practical deficiency; yet a principle of equity is allowed to step in and rescue strongly exceptional cases from the rule. Such is the case with wills; which, as to whatever touches the pith of them, (the intent of the testator,) and not the mere formalities of execution and publication, which equity does not presume to meddle with, are saved from the grasp of a vague general provision by the construing and adapting powers of judicial tribunals; which convert into a graduated scale of Vernier minute-



ness what was designed to measure only in the gross of significant dimensions, without regard to the more or less of fractional parts. The law bravely disregards mere littleness: *de minimis non curat*. But equity condescends to minuteness for the purpose of getting at a man's intent and meaning in his particular act. Although equity has been usually regarded as a sort of distinct and side tribunal, complementary to the common law, yet the common law itself may claim for its chief merit both an expansible and a contractile power according to times and exigencies, adapting the spirit of a principle to the necessities of a case, without sacrificing the principle itself—a power which has in it the very germ of strict right and good conscience. Perhaps in nothing is this more observable than in the enforcing or the invalidating of wills. Each case of a will, is like each case of insanity, *sui generis*. There seems to have grown up a sort of concurrent jurisdiction, or, at least, a correspondence of purpose, in the various courts, to make wills efficient to the closest verge of palpable inefficiency; to infuse into early youth and preserve to the latest old age, the testamentary capacity and vigor, and to maintain it against all shadows and suspicions. By the common law, and under some of our statutes, infancy may make a good will long before it may make a good contract; and old age may do so after it becomes questionable whether its contract would be any longer valid. Until thirty years ago, in England, a boy of fourteen and girl of twelve, might make a good will of personal estate; and a boy of eighteen and a girl of sixteen may still do so in the State of New York. Thus the testamentary capacity is of earlier maturity and of later decay than perhaps any other recognized legal faculty. The reason is, that a simple exercise of the will—the act of a single mind—requires less force and

activity of the disposing power than the complexity of a bargain, where two or more minds must encounter, discuss, and conclude. The one implies a state of mental repose, conducive to clearness of the faculties; the other, a state of mental conflict, conducive to excitement and doubt.

The usual coupling of the *memory* with the *mind* in the law phrase defining the disposing power necessary to give life to a will, is a somewhat striking and pregnant pleonasm, as if to give prominence to the memory as the distinctive faculty of the mind most necessary to the exercise of the power. It singles that out from the other faculties, as if human experience had shown that of all the mental traits the memory was the most significant, as well as the most uncertain, and therefore the most to be suspected and criticized. Macbeth calls it "that warder of the brain;" yet it often slumbers on the watch; and as a physiological truth, it is the first of the faculties to stagger and decay, without sensibly disturbing the equilibrium of the mind; while, when that is most disturbed, as by insanity, the memory is often the most active, the striking exception being in the case of *Dementia*. It is liable to various tricks and failings that are troublesome and perplexing, but many of which do not vitally touch the disposing capacity. If we say, in an absolute unlimited way, that a defective or "unsound" memory shall disqualify, we disqualify many men who, notwithstanding, are by daily acknowledgment, abundantly competent for all the common purposes of life and business. A man, for instance, may not be able to recall the name of his son Dick, when he wants to remember him in his will, but may still have a perfect recollection of his person and identity—may have his true image in his mind and memory—and be just as sure that it is that particular son he means to give



his property to, as if no word but Dick were at his tongue's end. His intent is obvious enough, and any suggestive bystander can prompt the name, which he at once recognizes and pronounces, with a muttered anathema upon his own stupidity; and straightway forgets again. Dr. Johnson in his infantile petticoats could learn a collect in the prayer book before his mother could get up two flights of stairs; and yet he could, on occasion, forget the word "*fugaces*" in the familiar ode "*Posthume*." This he called a "strange trick" of the memory; but it seems to be a favorite one. So a man may, with great vividness, recall particular scenes and events, and be utterly unable to recall dates and names coupled with them. So, one's memory may be perfectly unimpeachable, nay, particularly strong, on a favorite class of topics, and quite confused and at large on some or perhaps all others. It is a common accompaniment of senility that the memory of early and old events is bright and unequivocal, while that of nearer and fresher ones is indistinct or obliterated. In our presence, as we write, is a gentleman of seventy-six transacting his daily business with accuracy, whose competency to make a valid will no one would doubt; who forgets or confuses ordinary events of the day or the week before; and who daily asks some question which he asked yesterday, without being conscious of the repetition, until the answer arouses him to a mortifying recollection of it; and yet an event of ten years or forty years since is clear in his remembrance. He could, doubtless at this moment, without book or reference, specify the principal items of his estate, and dictate the disposition of it, with as much promptness and decision as he makes his entries in his ledger. An old poet says,

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————— "none grow so old  
"Not to remember where they hid their gold;"

which means that in matters of property and estate, the memory is long-lived and tenacious, and not so often impeachable as dissatisfied heirs and expectants would have us believe. Montaigne, with all his fertility of quotation, indicating at least a good memory of *ideas*, could not call his servants by their *names*, and says that he “has no memory at all;” which means no more, perhaps, than that he had so little that it took him “three hours to commit three verses;” it was of the slow, and not quite the sure sort. Waller often forgot his accustomed “grace,” and even the Lord’s prayer. Boswell tells Johnson of a worthy gentleman who forgot his own name; which, (surmising that it was his own father,) was not very remarkable, inasmuch as it was written “Auchinleck” and pronounced “Affleck,” and might confuse a pretty strong memory; although Dr. Johnson thought it was a case of “morbid oblivion.” But he also thought it was incredible that a man’s mind should be weak at seventy, probably because he did not perceive any waning of his own. We have lately heard of a gentleman, a professor in a college, whom no one would suspect of “unsoundness” or “morbid oblivion,” who going to the post office for his mail, when he got there, could not, with all his fingering of his forehead, give his name, and finally turned away in desperation to pick it up, by some chance, outside. Near the street door a gentleman met and saluted him by his *name*, and was surprised that he got no other acknowledgment than a hearty “thank you—thank you,” when his friend rushed rejoicing to the post-office box with his recovered cognomen, fearing it might wriggle out of his head again before he could bait with it for his letters. This reminds one of Newton viewing the remains of his chicken, which some kind friend had taken the liberty to pick clean while he was solving some intricate problem,



(leaving what Berkeley might not have unaptly called "the ghost of a departed quantity,") and gravely exclaiming, "I thought I had not dined, but I find I was mistaken." These cases of absence of mind, or abstraction, are often confounded with positive defects of memory, especially when they arise from a torpidity or sluggishness of the brain that often accompanies a state of weakness or ill-health. Many a man never forgets a face, who often forgets the name that belongs to it. Cases might be abundantly accumulated to show how uncertain and vague the term "unsoundness of memory" is to measure the competency of men in their other faculties. Few memories after middle life are without a flaw; and the precise disqualifying grade of "unsoundness," is too variable for the just application of any general rule.

We once knew, attending an academy, a pupil of thirty years or more, whose advancement was far short of his age and his early opportunities. His story was that, during his boyhood, when fairly forward in his studies, he had a fit, or a succession of fits, on recovering from which his memory was a perfect blank. He did not know the alphabet, and had to commence anew, at the very foot of the hill of science, and recover all his steps. A time came in his new progress when a portion of his old attainments flashed back upon him, and gave him a sudden lift. He was perhaps never of a strong mind; but when we knew him, a senior among juniors as regarded years, but a junior of the juniors as regarded school knowledge, he had a most wonderful memory, especially for numbers and for historical events. He would rattle off the whole course of American history and of Napoleon's campaigns, then fresh, giving days, years, events, and names with amazing readiness and the most positive certainty. He took part in the debates

of a club, with some diffidence and hesitancy of speech, and was the infallible historical reference and index. He would repeat, with unerring correctness, fifteen or twenty of the most uncouth and unrecognizable words and names, on the bare sight of them, glancing over the list, turning the paper, and reciting his lesson as if it were a well conned page of the spelling book. Some years after, we met him as a teacher of a village school, where he was a favorite with his pupils, and gave satisfaction to their guardians. He was a simple man, somewhat short-witted, and somewhat eccentric, credulous, of mild and pliant temper, and showing evidently enough, by his inconsecutiveness of talk, some shattering of his faculties; but as for his memory, in the respects we have noted, it tended to a painful excess; a defect by way of superfluity, rather than of lack. Is such a man of sound mind and memory in law? We have read of a person who, after an attack of fever, permanently lost the knowledge of one of the letters of the alphabet. How far should that impeach the soundness of his memory for the making of a will? Respecting the seeming prostration of the faculties by a general paralysis, we know of a case of twenty years standing, of a young man struck down to such a complete weakness that he had no power left to express a want except the motion of one eyelid, and so remained in a state of apparent idiocy or complete imbecility for a considerable period; afterwards very gradually recovering his physical power, as shown first by a nod, then by a raised finger, then by a movement of a hand, and then by an imperfect tongue; and what was more surprising, he afterwards assured us that during all this hopeless state of helplessness, his mind was undisturbed and as clear as ever; that, with a physical power of expressing himself, he could have dictated a letter of business, or directed the management



of an affair, with the same readiness and intelligence that he ever could; that he had heard and observed all that was passing around him, and was conscious of the misapprehensions and blunders into which his physicians and nurses were deceived, and could have corrected much that was amiss in the management of his case. For aught that appears in his conversation and letters, (for although blindness has added its cloud, he still writes letters very intelligibly by mechanical aid,) his mind has maintained its natural vigor amid shocks that seemed at times to have prostrated every thing but mere vitality; and with the exception of one distressing and protracted turn of unremitting neuralgic pain in the head, when he would have welcomed death as a relief, he has been constantly cheerful and animated. Of course, during the period of his extreme prostration he could not have made a will, because he could not command any means of communicating and verifying it; but the incapacity was not of mind and memory—it was merely physical—a want of the power of signifying his will. When he had so far improved that he could nod assent, or communicate his wishes by pointing out letters with a pencil in his lips and thus laboriously spelling out words, and could perhaps attest a will by making his mark; although his mind and memory were abundant for a testamentary act, yet the legality of it, performed under such questionable conditions, would probably be contested. A man so wrecked is very apt to be considered as *incapax*, when, in truth, his wits may be brighter than ever, and his observing and reflecting powers sharpened to a keener edge, and concentrated, by seclusion and self-dependence, into unwonted strength. Such instances show that no common rule is equitable: each case must stand by itself, and be judged by its own characteristics.

Many men who are not insane have a defective, a weak, or a confused memory. It is a point to be considered with reference to their capacity for doing or directing some particular thing, or for performing satisfactorily the duties of certain stations in private or public life. One may have wit and memory enough to bestow all his property on a grateful and kind daughter, cutting off an unfilial and reprobate son, without having sufficient of either of those qualities to enable him to comprehend a testament stuffed with devises over, contingent remainders, provisions to meet the possibility of issue extinct, and all the ingenious cobwebs of a lawyer's brain that some sane men put their hands and seals to as if they understood exactly what they were about; mainly trusting to the intelligence and good faith of their counsel, rather than to their own wits. Indeed, some wills of lawyers have not stood the test of a legal construction, verifying the adage that "whoso is his own counsel hath a fool for his client." So an imbecile mind may be too narrow to understand the nature and drift of some complex transaction, but can fully comprehend and direct a simple one. So many shrewd men may be puzzled to appreciate the relative values of property, considering the uncertainty of mediums of exchange and the fluctuations of value, and make their wills with a wonderful miscalculation of results: indeed, one who has been accustomed all his life to gauge values by a silver dollar, may, without any imputation of unsoundness, be excusable for some inability to gauge them by a greenback, and go marvelously wide of the prospective worth of a favorite corner lot, set aside for the rich provision of a minor child. To put such incompetencies and misjudgments as these on a footing with insanity, and allow them to invalidate wills, seems to be an unnecessary proposed innovation,



and an unreasonable slur upon the testamentary capacity. Such are cases for courts and juries to judge of as they arise; and if such circumstances are really of force to impeach wills, let it be an inherent force of their own, like that of fraud or undue influence, and not borrowed from a source of incapacity to which they are in no wise attributable, to wit, insanity; which has enough of its direct offspring to cover, without sparing a corner of its cloak to shelter all its putative cousins, or more distant and questionable relations. This is an error of some who urge general legislation on the subject of wills, making certain *indicia* positive disqualifications, as of the nature of insanity. Perhaps a wiser step of general legislation, and more to the root of the matter, would be to cut off and extirpate all testamentary power, except that of mere guardianship, and leave all estates to follow the laws of intestacy, as the most conformable to the innate sense of natural right. It would compel beneficence to do its good deeds in its life time; save a world of vexation, family discords, and litigiousness; and hasten the millenium by a thousand years to all the world but lawyers. Besides, if no wills could be made, and all were compelled to die intestate, it would do away with a certain superstitious apprehension of death that is associated with last wills, and take the sting out of Lord Bacon's shrewd inference, "I gather that death is disagreeable to most citizens, because they commonly die intestate, this being a rule, that when their will is made, they think themselves nearer a grave than before."

Insanity seems to be regarded in two different lights by the law, as it is viewed from the criminal and the civil side. It is broad for a shelter against criminal charges, and narrow to cover evasions or breaches of the usual responsibilities of civil life. The thinnest cloud

of unsoundness will sometimes obscure a criminal intent; but it may not cast the lightest shadow upon the ordinary transactions of business, not even upon the disposing capacity of a testator, unless his will be unusually odd or malevolent. Nor is it a distinction without a difference, psychologically, as well as legally. The same mind may, in a state of repose, quietly order the daily routine of affairs, and consider sensibly of the disposition of property, that will be put beside itself and lashed to frenzy by some inauspicious provocation or disturbance. Its equanimity is perfect in a calm, but wholly wrecked by a tempest, which is the only real test of it as a virtue of any particular value.

*“Rebus angustis, animosus atque  
Fortis appare,”*

is the rule of an even mind. The ordinary business of life is not conducted in a whirl of excitement; but crimes, and insanity too, are often the offspring of it. Thus for invalidating a testament, which is usually the long-cogitated and composed act of a thoughtful man, a greater suspicion or proof of unsoundness is commonly requisite than for shielding against punishable offences. Even a man under actual guardianship, as one of discomposed mind, may make, in a clear, lucid interval, a valid will; the guardianship only serving to change the burthen of the proof from one side to the other. A lucid interval restores a man to his rights of sanity, and needs only to be proved when it cannot technically be presumed. If in a fit of passion, or of sourness and impatience, a man makes an absurd will, which in a better mood he would readily cancel, yet the law, on existing general principles, would uphold it; for it is not its province, nor is it within its power, to regulate men's tempers, their partialities, or their prejudices, or



the unbecoming or spiteful displays of them, if they be short of criminal. Yet it goes farther, perhaps, in the assumption of such a power in the matter of construing wills, so as to make them conformable to equity and good conscience, and to give effect to what might be presumed to be a reasonable intent of a testator, than in any other attempt to exercise it. It so construes inconsistent, or conflicting, or dubious clauses of such instruments, as to make effective some obvious, or natural, or seeming, or reasonable intent of a testator, without presuming to make his will for him, or to go directly in the teeth of its positive provisions; which, if they are intolerably bad, it will rather stretch its conscience to set them aside entirely, on any sufficient show of imbecility, or fraud, or undue influence, or delusion, or some constructive or inferential unsoundness of mind and memory. The adjudged cases sufficiently show this tendency, although it may be rather lurking than avowed.

It has been made a question how far a will executed in a conceded lucid interval, when the faculties have, for the time being, apparently resumed their original brightness, is tainted by a chronic or recurring state of unsoundness of the mental condition of a testator. The writ *de lunatico* was always careful to require an inquisition to be made as to the lucid intervals of an alleged lunatic; because lucid intervals restored him to all the rights of sanity and covered his lawful acts: at the same time, they made him amenable to responsibility for those which were unlawful. But such writs were usually resorted to for protecting a man in regard to his property, and his civil rights and obligations, against his own mismanagement or incompetency, and not in regard to any criminal violations of duty. The purpose was to place him under legal guardianship, that no

advantage might be taken of his wretched weakness; not that he should be restrained of his liberty of person, or of action, during any intervals of his restored strength of mind. It was considered that a man's faculties might brighten as sharply out of the obscurity of insanity, as the moon suddenly casts a pure glance out of the broken nebulae of a ruffled sky. There is no doubt of the transitory reality and clearness of either; but as the moonbeam might disappear in a passing occultation of a cloud, so might the lucid interval in a returning confusion and shadow of the mind. A will made in such an interval, of sufficient duration to test its reality, should, on general principles, be as valid, as one made in a temporary cloud of insanity should be invalid. Martin Luther had his clouds, so had Cowper his, and Mary Lamb hers; but the long intervals of brightness were of a transcendent character in all; of unequal continuance, indeed, but of unequivocal reality. Still, it is a nice psychological question, and Lord Brougham made it a legal one, whether a mind once tainted does ever positively recover its normal strength and health; whether there must not always remain such a real or presumptive suspicion of unsoundness, as to make it unsafe for the law to pronounce an absolute lucidness, and act upon that assumption. The law, however, practically answers the point, by measuring a man's capacity, not absolutely, but relatively; it inquires as to its sufficiency for any particular questioned act, and resorts to all tests, general and special, that may shed light upon it; and is content if it be the act of a mind competent to do it, whatever its incompetency to do other acts. A man may make a will, but may not be quite equal to making a bargain. He may intelligently do acts, after a long accustomed mode, and in a familiar routine of duty, which another man, of greater general intelligence and power of mind,



might not do half so well, nor with equal judgment. Newton, with all his science, could not tell when a shower was pending, as well as the shepherd's boy, who saw the sure sign of it in the wagging of the black ram's tail; and trusting to his science, rather than to the boy's observation, and the ram's instinct, was deservedly ducked, in the boy's estimation, for lacking common sense about common things. A jury of shepherds would probably have pronounced against his capacity to make a will; as a jury of farmers lately disagreed about the wits of an octogenary neighbor, because he allowed a buckwheat field to grow up to an incipient pine forest of great prospective value, contrary to the current practice of good husbandry in that neighborhood; and sacrificed the present enjoyment of morning pancakes, to gratify the third and fourth generation with the rich results of a spontaneous growth of logs worth fifty or sixty dollars a thousand feet of board-measure.

On the whole, we are inclined to the opinion, that any attempt to define, with a pretence to psychological precision, the tokens or circumstances which ought absolutely to govern the adjudication of the validity of last wills, in respect of mental capacity, will fail of its purpose. A few approximate general principles must suffice for common application. In criminal cases, involving questions of insanity, the firmest and strictest definition is the best, although dogmatic, because it is the most merciful; in civil and equitable cases, much must be left, somewhat loosely, to judicial discretion, and the force of concurring precedents. That degree of unsoundness of mind which incapacitates a particular person under particular circumstances, does not necessarily incapacitate every other person under the same seeming circumstances. It is a question of fact which should be left, in all disputed cases, to a jury of the

vicinage, who although they are liable to be swayed, as perhaps they ought, by the prevailing sense and judgment of the community which is cognizant of the matter, will usually, under suitable judicial instruction, be also swayed to hit near the truth in their verdict. The will of a conceded lunatic may, in itself, betray no mark of the unsoundness of the mind that dictated it; for lunatics are not necessarily lunatic at all points; and the consideration of a grave purpose may concentrate their wandering wits into rationality. Often a sane man may make a will, while in a temporary haze, which does not affect his general capacity, and which only dims his mind on some subject that has nothing whatever to do with what he is about. Such a haze might properly enough shelter him if he were charged with a crime about which it had confused him; but his civil acts are not compromised by it, unless they are obviously done under its shadow. Respecting the question of undue influence, it is not always, or of consequence, connected with legal unsoundness of mind and memory. Nor does mere weakness of intellect incapacitate; and yet weak intellects, far enough from proper insanity, are liable to be touched by superstition and by sinister influences; as conceded strong intellects often are by exalted notions and ambitious imaginations. A perfectly sane man may, from a desire for posthumous distinction, or for ostentatious liberality, or for simply preserving his name and memory, or possibly to soothe a gnawing conscience, dispose of a large estate in the founding and endowing of charities, to the distress or destitution of a family that naturally has superior claims; and yet such a disposition would not be impeachable as an act performed under undue influence. There are many cases of notoriously unjust and improvident present dispositions of property made by living men, by way of gift and lavish-



ness, which the law does not pretend to supervise or regulate; then why should we expect to supervise or regulate the like testamentary disposition of it? We may say of a man, as we often do, that he is wasting his means, like a madman or a fool, in gaming or riotous living, or even in famous charities, that impoverish him; but we cannot restrain him, without a presumptuous interference with his liberty of action: then why should we expect to follow him beyond the grave, and criticize his posthumous squanderings and charities? Many a man is impeached of fatuity or undue influence, after his death, upon the mere footing of his last will; whom, living, no one would venture to impeach for any action of his life. But when the soul that animates the unfortunate testament no longer animates the body of the testator, it is also no more respected or considered than the poor remains it once vivified; but is straightway assailed, impeached, doubted, scandalized, and insulted, as having lacked, in the most solemn act of life, all the discretion, affection, good judgment, foresight, and other commendable qualities, that once adorned the conduct, and are probably now blazoned on the monument, of the weak and deluded man who turned up a dark and unknown side of his character when he made such a will; disappointing so many expectants; and compelling, perhaps, his own offspring to depend, as better than all inheritance, on their industry and resources, as he himself had depended on his.

Last wills have been a prolific cause of imputed insanity. Many excellent people have gone with tainted memories among their posterity, on account of the most deliberate and conscientious act of their lives; who, if they had had the supreme wisdom to die intestate, might have slept quietly in their graves, without ungrateful reminiscences. "Unsound minds and memories"

have come to light on the reading of a testament, that were never suspected to exist before; and rarely has a large estate been bequeathed or devised, without arousing a doubt that the unfortunate deceased possessor of it, must, at one time or another, especially when he was acting in the presence of chosen witnesses, and making a solemn declaration of his final purposes, have been beside himself, or unduly influenced by some sinister relative or friend. It is a melancholy and humiliating reflection on which to pause and ponder.

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## A LECTURE ON GASTRIC EPILEPSY.

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DELIVERED AT ADDENBROOKE'S HOSPITAL, CAMBRIDGE, BY  
G. E. PAGET, M. D., PHYSICIAN TO THE HOSPITAL.

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From the *London Lancet* for July, 1868.

One of you asked me a few days ago whether the case of the older of those epileptic girls in Hatton ward (I mean Sarah H——) were a case of *gastric* epilepsy. It was a good practical question; it went at once to the most important point, that of treatment. The choice of treatment for the patient depends on our answer to that question. I will therefore take it as my text for saying something on the treatment of such cases, and on the general principles on which epilepsy should be treated.

There is one fact which you must never lose sight of in considering the treatment of epileptics—the fact that though they resemble one another in being subject to the like fits, they may differ widely from one another in other respects, and that this difference must be taken into account in devising the treatment.



The questions have at times been discussed, whether epilepsy be a sthenic disease or one of debility—whether it is associated with cerebral plethora or the reverse. In such discussions I should take neither side, because I am sure that I have seen some epileptics plethoric and others deficient in blood; I have seen some vigorous, athletic; others as remarkable for their weakliness. If you treat your epileptic patients indiscriminately with metallic tonics, you will find that some of them are benefited, and others made worse. In the present day venesection is scarcely ever employed in the treatment of epilepsy, but if you refer to the work on Nervous Diseases, by the late Dr. Prichard, you will find indisputable evidence of benefit derived from it. He treated many of his epileptic patients with repeated large bleedings, and under this treatment the fits in some of them became less and less frequent, and in a few cases seemed to cease altogether. A case from Portal will illustrate the same fact. An epileptic in one of his fits fell violently on his face, and caused so frightful a hemorrhage from the nose that it was thought he would die from loss of blood. Before this he had had a fit once a month, or oftener. After it, he remained free from them for several months. The surgeon who attended him took this as a hint, and bled his patient at first once a month, afterwards at intervals of three or six months, and then more rarely, and continued this treatment for a long time. The fits never returned.

You will understand that I do not wish to encourage you to treat epilepsy by venesection; I only desire to show that a mode of treatment which has been well-nigh exploded as a remedy for epilepsy has (there is strong reason for believing) proved truly remedial in *some* cases. I could give you further evidence from one or two that have fallen under my own observation, but

they would be less striking than Portal's. Such cases are of course quite exceptional.

If you aim at curing epileptics, you must be at the pains to study each case individually. And you need not be surprised at this. Epilepsy is not the only disorder of the nervous system which is associated with different conditions of the rest of the body, or even with different conditions of the vascular system of the brain. You all know that delirium may occur in what appear to be different, or even opposite, conditions. It may be excited by alcohol, and may occur in a state so different as to be arrested by alcohol. Take another more definite example of nervous disorder—the phenomenon of optical illusions. This is in some cases associated with plethora, and even seems to be caused by it, for it is relieved by venesection: but in other cases it is no less certainly associated with a deficient supply of blood to the brain, for it has occurred in fainting and in the weakness of old age. It may occur also in blood-poisoning, as in fevers and uræmia and under the influence of opium or Indian hemp.

So with epilepsy: it may occur in very different conditions, and therefore require very different kinds of treatment. You will understand that I am not now speaking of the essential pathological condition of epileptic fits, of which we know so little, but of the general conditions which are practically cognizable.

You may ask, “If the treatment should be so different in different cases, can you give us no general rules for our guidance?” My answer would be, I can give you no *one* method of treating epilepsy, but some general principles may be laid down, and these we can gather from a consideration of its causes. Our knowledge of its causes is indeed limited, but whatever obscurity there may be about its *proximate* cause, we do possess some trustworthy evidence as to its remote causes.



One of these is a constitutional state, which predisposes to the fits, and may be congenital. It has been called the epileptic diathesis. If you ask me to define more exactly this epileptic diathesis, I must tell you that is more than I can do. Then you may reasonably demand what evidence there is of this constitutional state, of which so little is known that it cannot be defined. Well, there is sufficient evidence in the fact, that two or more cases of epilepsy are sometimes observed in members of the same family, and that this happens far more frequently than it would do as a mere accidental coincidence, and it is observed under circumstances which forbid our attributing it to a common *external* cause. I could give you many instances that have come under my own notice. At the present time two epileptic sisters are among my out-patients; a short time ago there was an epileptic child in Hatton ward, whose mother had been epileptic for some years until the birth of this child, at which time her epileptic attacks ceased; I have a private epileptic patient at this time, whose son died of epilepsy, the disease in the mother not beginning until after the death of the son; I have notes of several examples of epilepsy in brother and sister. Now this predisposition of two persons to a common disease can only arise out of some defects or peculiarities in which they resemble each other; and these points of resemblance, whatever they be, involve the essence of epileptic diathesis. We can only conjecture what this essence may be. As epilepsy is manifested by a disorder of the nervous system, we may reasonably surmise that the diathesis is associated with some abnormality in that system. Many years ago I fancied that it was connected with congenital abnormalities in the structure of the brain or its blood vessels; for in several cases of fatal epilepsy I had noticed irregularities in the cerebral arteries or in

parts of the brain itself, but in other cases I have looked in vain for such abnormalities. We cannot even be *sure* that the essence of the epileptic diathesis resides in the nervous system; in albuminuria we may have epileptiform fits, and a state of disease which at least resembles genuine epilepsy, yet the essential cause here is in the poisoned blood, and the epilepsy may be cured if we cure the albuminuria. But whatever be the essential nature of the epileptic diathesis, it is certain that there is such a condition, or group of conditions, and that it is one of the efficient causes of epilepsy. Its influence doubtless varies greatly in different cases.

There is another cause of epilepsy, which is, or at least appears to be, of a different nature. In many cases we may observe the fits to be excited by some local irritation. In some cases a local irritation seems the cause both of the origin and continuance of the disease. In one, published by Dr. Greenhow, a girl had run a splinter of wood the distance of an inch underneath her left thumb-nail. Much pain and irritation ensued, and at the end of a week she had an epileptic fit. She had four more fits at irregular intervals in the next four months. The wound remained open, and painful on pressure. The fits were preceded by a sense of numbness in the thumb, rapidly extending up to the shoulder. They were complete epileptic fits: the tongue was usually bitten, and she fell asleep after them. She had not suffered from convulsions while teething, and was not subject to hysteria. Dr. Greenhow ordered the thumb to be poulticed; and for medicine gave solution of perchloride of mercury and tincture of cinchona, of each one drachm and a half thrice daily. Nine days afterwards a sixth fit occurred. The wound was now healing, and soon after healed. The sixth fit was the last. Four months afterwards the patient remained well.



The late Dr. Baly published a case of epilepsy occasioned by irritation in the socket of a tooth. The patient was a stout man, aged forty-five. The first symptom of spasm had been twitchings of the cheek, ending in his jaw becoming locked. Subsequently these symptoms were the precursors of a fit of violent epileptic convulsions, the right side (that on which the tooth was affected) being more convulsed than the left. The convulsions always began in the cheek, and extended gradually over other parts of the body. When the jaw and gum were healed the epileptic fits ceased.

Even more striking is a case which occurred to Portal, and is given in his work "*On Epilepsy.*" A man had been wounded in the forepart of the neck and upper part of the chest with small shot discharged from a pistol. Some shot were removed from his neck by slight incisions, and his health remained good for nearly six weeks; after which he had numerous attacks of convulsions, with loss of consciousness. These were continuing many years afterwards, when he consulted Portal. Portal's prescriptions were in vain; but some time afterwards an abscess formed on the side of the neck near the shoulder, and, on its opening, a grain of shot was discharged from it. From that moment the man was free from his epileptic fits.

In a similar case given by Portal the patient was a soldier, and his epileptic fits were preceded by sharp pain in his thigh, where he had once been shot. Lamorier, a surgeon of Montpellier, made an incision into the part, and removed two or three grains of shot, and the patient was thereupon cured.

Cases of this kind are to me so practically significant that I will tell you still another, published by Portal on the authority of Fizes, a professor of Montpellier. A soldier had been subject to epilepsy from the time he

had received a wound from the point of a sword in the corner of his eye. The fits were ushered in with pain in this spot. Fizes directed that a careful examination of the part should be made by a surgeon. On examination a minute spot was found, which was hard and painful; and the surgeon, cutting down into this, removed from it the little point of the sword with which the soldier had been wounded. From that time the man was radically cured.

I have cited these five very similar cases because they indicate so plainly what I wish to impress upon you. In these cases a local irritation was the exciting cause of the epilepsy, and seems even to have been its sole cause. It must, at all events, have been the main cause; for, on its removal, the fits ceased. If there were any other concurring cause, it must have been slight. If these five patients had the epileptic diathesis, they could have had it only in a very low degree; otherwise, the removal of the local irritation could not have accomplished an immediate arrest of the disease. These cases, therefore, teach us that epilepsy may originate in a mere local irritation in some part of the body, and that it may be kept up by the continuance of such irritation. This latter point is of the highest practical importance. It teaches us to search out in every case of epilepsy for evidences of local irritation or disturbance, and thus to discover the exciting cause of the recurrence of the fits. It may or may not have been the *original* cause. The epilepsy may, for example, have been originally caused by fright; but its continuance may be due to some local bodily excitement or disturbance. The local irritation may of course be on the surface of the body, or in an internal organ.

In the treatment of a case of epilepsy it is therefore of the utmost importance to examine into all the func-



tions with the view of discovering whether disorder in any one or more of them be precursory of the fits. If we can discover this, and can succeed in correcting the local disorder, we may stand some chance of preventing the fits. We must not, however, reckon on the good fortune that attended the five cases I have narrated. The local disturbance is more commonly seated in an *internal* organ, and cannot be so completely and finally removed; and even if it be, our patient may have the epileptic diathesis, which acts as a predisposing cause; and if he have not this diathesis congenitally, yet it is a fact unhappily too well established, that, when a person has been for some time epileptic, the fits may be renewed by occasional causes far slighter than that to which they owed their origin. It is well known that such a person may be thrown into a fit by a cause which would not have sufficed to produce any ill effects whatever before he became epileptic.

These immediate occasioning causes, which it is our duty to search for, are by no means always obvious. They may be only slight functional disorders difficult to discover.

In no organ is the immediate exciting cause of epileptic fits more frequently found than in the stomach. Indeed, a gastric disorder may even have been the original exciting cause—the cause of the patient's becoming epileptic. This was the case with an hospital patient of mine named George D——. In his early boyhood his head had been injured by the kick of a horse, and he may thus have acquired some predisposition to the disease, but no symptom of it appeared until one day, when he was fifteen years old, he ate an enormous number of cherries, including many of the stones. An epileptic fit was the consequence. Similar fits followed, at first at intervals of a few months, then of one month,

and then more frequently. They were preceded by an aura from epigastre to head. He was extraordinarily athletic, but was obliged to give up his occupation as a whitesmith, and at the age of twenty-four was found drowned in a shallow ditch on Midsummer-common, into which he had fallen doubtless in a fit.

In epilepsy once established, whatever may have been its exciting cause, gastric disorder may in the course of the case, become the ordinary exciting cause of the fits. You may satisfy yourselves of this by watching such cases, and carefully inquiring into the circumstances of each fit as it occurs. You may find, perhaps, (as in George D——'s case,) that an aura passing from the region of the stomach to the head is immediately precursory to the fits; or that there are other symptoms premonitory of a fit, and that these are plainly gastric, and may be relieved by gastric remedies, and that when they are so relieved the threatened fit is averted.

Of course in the great majority of cases there must be some other concurring cause besides the gastric disorder. There may be a congenital epileptic diathesis, or that proneness to fits which seems to be generated by previous attacks. It is certain that in most cases there must be some such predisposing cause, for the gastric disorder which immediately excites the fits may be no more than hundreds of dyspeptic persons are frequently undergoing without falling into fits. But if the predisposition be not strong, we may go a long way towards curing our patient by such watchful attention as to prevent again and again the recurrence of the fits.

In proof of this I can give you many cases in which epileptic patients were greatly benefited, or even permanently cured, by remedying their gastric symptoms, although little besides was done for the correction of a presumed epileptic diathesis.



In August, 1852, I was consulted by Mrs. W——, the wife of a man of business. She complained of epileptic fits, which were nocturnal, coming on in her sleep. The first had occurred three years before, at a time when she was pregnant with her second child; the next after twenty months, and then they had recurred with increasing frequency, and of late as often as once a month. The last of them had happened a fortnight before I was consulted. All of them had come on about three or four A. M., and all had been severe fits, leaving after them a languor, lassitude and confusion of mind of some days' duration. On particular inquiry I ascertained that the day before each fit she had had some slight disorder of her health, apparently of the stomach. On the last occasion she had experienced a faintness and nausea after breakfast, and had, moreover, dined off salmon and veal. She was in the habit of eating heartily, and of taking a glass of porter at dinner and at supper. With the exceptions mentioned her health seemed good. In her childhood, she had been in the habit of sleep-walking.

I prescribed moderation in eating, and abstinence from all indigestible food and from all fermented liquors. For medicines, I ordered three grains of valerianate of zinc to be taken thrice daily; and a draught of gentian mixture with senna, eleven fluid drachms, and compound tincture of rhubarb, one fluid drachm, to be taken on the occurrence of any of the symptoms which had commonly preceded a fit.

I know not exactly how long the medicine was continued, but the rest of the advice was honestly and persistently followed. The result is, that to this day she has never had another fit, though she has been much tried by domestic misfortunes, including the insanity and death of her husband. This result is the more re-

markable because the sleep-walking in her youth showed a nervous constitution, which is also indicated by the fact that two of her brothers subsequently suffered from delirium tremens, though the habits of one of them were not in a marked degree intemperate.

In 1860 I attended with Mr. Carter a boy, eleven years old, who had had eight fits. The first had occurred when he was two years and a half old; the last, three weeks before I was consulted. On this last occasion he had had two fits within twenty-four hours, and since then he had been restless at night, grinding his teeth, twitching or tossing his arms about, talking in his sleep, or starting up in bed in a state of unconsciousness, with open, set eyes. On one occasion his mind wandered on his awaking. Though of gentle disposition, he had become irritable in temper, yet complained of nothing, and declared himself quite well. He was not aware that he had had fits. There was some little hereditary predisposition, for his maternal grandfather had been epileptic, and had died in a fit. But what was practically of more importance was, that his stomach and bowels had been out of order on the occasions of his fits, and had long been so at the time I was consulted, notwithstanding judicious treatment. He was pale and not robust. His alvine evacuations were almost always unhealthy, and generally contained undigested food. On one day he was seized with twitching of the face just as his bowels were about to be relieved under the influence of an ounce of compound decoction of aloes; and the nocturnal restlessness was more particularly noticed whenever his bowels were confined. They were constantly torpid. To restore their healthy action and correct their secretions, and to enable him to digest his food, cost us some time and no little trouble, but when this was effected the other disorders ceased, and he ap-



peared well. At the end of four months came a relapse. In one night, during sleep, he had two more well-marked epileptic fits. After them he vomited large lumps of beef, undigested and unmasticated, which had been "bolted" at dinner, and lumps also of beef-pudding which had been eaten cold at breakfast, eighteen hours before. The cause of his relapse was so manifest that it served as a warning for unceasing attention to the rules of diet which had been prescribed. Since then—seven years ago—he has had no more fits, has been able to rough it at a public school, and has grown into an active and intelligent young man.

Now what were the remedies in this case? Well, he took very little of reputed remedies for epilepsy. He did indeed for some nights take a quarter of a grain of extract of belladonna, and for some days he tried oxide of zinc, and at another time sulphate of zinc in small doses; but these measures were soon abandoned, because they seemed rather hurtful than beneficial. The medicines that were of service were such as helped to correct the unhealthy state of the alimentary canal—such as would have been used if there had been no epilepsy at all; but still more serviceable, as I think, were, regulation of his diet, the use of an artificial masticator, and much riding exercise on a pony.

Cases more or less resembling this are not uncommon. Here is another. A boy thirteen years old, intelligent, soft-hearted, with pale complexion, large head, and lofty expanded forehead, had been subject for two years to sudden seizures, in which he involuntarily nodded his head twice or thrice, and was for the moment unconscious. These attacks had been regarded by his friends as of too little importance to require medical advice. In April, 1858, he went from home on a visit to some friends who were confectioners. Here he en-

joyed for some days a heterogeneous unwholesome diet, and then one day dined off a pork-pie. After dinner he was leaning forward over a table reading a book, when suddenly he fell to the ground unconscious, in an epileptic fit. I advised great and habitual care in his diet, cold sponging of the head, and a regimen adapted to strengthening his general health. I also prescribed oxide of zinc twice a day, in doses of two grains, afterwards increased to three. Under this treatment the nodding attacks became less frequent, and the more complete fits did not return for more than twelve months. Then he had another epileptic fit, which was attributed to his eating a quantity of unripe fruit, and so served to renew the vigilance of his friends and their attention to his diet. That was in 1859, and was his last fit. He has now for many years been free also from the nodding seizures. The oxide of zinc was given only in 1858, and was not long continued: it probably had little to do with the favorable result.

Notice the nodding attacks in this case. Though little was thought of them, they were assuredly epileptic. The loss of consciousness attending them makes this certain. It is not uncommon for attacks of a slight kind thus to precede by many months, or even some years, the first ordinary violent epileptic fit. You must bear this in mind, and be ready to recognize the true nature of such minor attacks; for the longer their continuance, the more difficult is the cure.

In the following case, also, these minor attacks were a prominent feature:

W. E——, aged fourteen, a sturdy country boy from Little Eversden, was admitted into the hospital on September 4th, 1861. For four months he had been subject to nocturnal attacks, in which he started up in bed, threw his arms about, and struggled in an uncon-



scious state; but, soon recovering his consciousness, lay down and fell asleep again. Recently these attacks had become so frequent that his mother had sat all night at his bedside, and the seizures recurred, she said, every five minutes. Similar seizures occurred after his admission into the hospital; but their number rarely exceeded eight in a night. Nearly all of his attacks were of this kind; but there was a wound on the border of his tongue from a bite received in a fit three days before his admission, and when he had been two days in the hospital he had in the day-time an ordinary epileptic fit, in which he frothed at the mouth, and was quite unconscious. He ground his teeth much during sleep; his appetite was keen; his tongue whitish. His mother attributed the recent aggravation of his malady to eating and drinking in the harvest-field. He had passed a few round worms. I regulated his diet, and forbade any eating after 6 p. m. I prescribed, in succession, opium at night, oil of turpentine with castor oil, and compound scammony powder, without benefit. Then I ordered one-fourth to one-third of a grain of extract of belladonna every night, and oxide of zinc in increasing doses, trying these two drugs both separately and simultaneously. Some benefit was perceptible; but it was not lasting.

On the 2nd of January, 1862, I changed his medicine to subnitrate of bismuth and magnesia, of each five grains; acacia powder two grains; to be taken at 4 p. m., and bed-time. The attacks were immediately reduced to two or three per night, and became less violent. On January 24th, I ordered the powder to be given thrice a day. The improvement continued; and on February 11th, for the first time, he passed a night without any attack. He remained wholly free from them until February 22nd, when he was made out-patient, and ordered to continue the powders.

As out-patient he had an attack now and then, but never more than one in a week, and in some weeks none. He went on thus until the next harvest-time, when the seizures again became frequent, recurring twice or thrice every night, and he had also an ordinary epileptic fit in the day-time. He confessed to very free eating and drinking during the harvest. On October 18th, he had again improved, and after that he ceased his attendance, and I lost sight of him.

Bismuth and magnesia have no repute as remedies for epilepsy, yet they were plainly beneficial in this case. Bismuth, indeed, I have often prescribed with advantage in gastric epilepsy. By correcting the disorder of the stomach, it may go far towards relieving the epilepsy. By the use of bismuth with magnesia, as in the case last narrated, I cured a case of severe epilepsy, which during two years had resisted a great variety of treatment, prescribed successfully by two other physicians and myself. I failed to recognise its gastric character until I learned that the patient (a robust agricultural laborer) almost every day hiccoughed twice or thrice about two hours after his dinner. This case was in other respects so remarkable that I was induced to publish it. Besides his regular epileptic fits, which were numerous and of the most severe kind, and even nearly fatal, the patient was troubled with sudden and transient attacks of involuntary and meaningless laughter, associated with no ludicrous ideas, and occurring frequently by night as well as by day, in sleep as well as awake. He was ultimately cured by bismuth and magnesia, and after a period of seven years he is still remaining quite well.

The cases I have related are, I think, sufficient evidence not only that in certain cases of epilepsy the immediate exciting cause of the fits is in the stomach, but



that in some a cure can be effected by correcting the gastric disorder. This is what I wish you to bear well in mind. But I must not end here. If I did, I should leave a wrong impression on your minds. You cannot cure all cases of gastric epilepsy as these were cured. I have not given them to you as models of judicious treatment; far from it. You will meet with many cases in which such treatment will be found inadequate. The cases I have narrated prove the importance of treating the gastric symptoms when there are reasons for believing that the immediately exciting cause of the fits is in the stomach, but you must not expect that in all such cases this treatment alone will suffice to effect a cure.

In very many cases we have to take into account an epileptic diathesis, either congenital or acquired, in consequence of which the fits will recur, notwithstanding all our care in correcting the local exciting cause. We have then the additional task of removing or correcting this diathesis—this diathesis of the nature of which we know so little, of which we do not even know whether it be one state only, or whether, in our ignorance, we do not include under this one term several distinct and dissimilar states. How can we do this? No reasoning can help us here. Nevertheless, we are not entirely at a loss. Direct experience has taught us that certain drugs and certain kinds of regimen have some control over those states of the nervous system which predispose to epileptic fits. Oxide and valerianate of zinc have such power, and so have belladonna and bromide of potassium. These certainly exert an influence over epilepsy, an influence which we cannot doubt, though we know not their *modus operandi*. Direct experience has again and again proved their power when suitably used, not only in epilepsy, but in other affections of the nervous system.

In most cases of epilepsy we must direct our treatment to *two* ends—to remove the local irritation, and to correct the epileptic diathesis.

A man named William M——, is now attending as out-patient, whom I have treated thus, and his case illustrates my remarks the more aptly because I have kept the two kinds of remedies distinct, having deferred the second until the first had accomplished its purpose. He is the son of a widow, living at Barton, and was sixteen years of age when admitted as an out-patient, in April, 1864. When well he worked as an agricultural laborer. He had been subject to epileptic fits for eight years, and had the stupid, half-imbecile look so frequently seen in epileptics, when, in an unfavorable progress of the disease, the brain has suffered much. His fits had generally recurred about twice a week; their epileptic character was well marked, and they were followed by deep sleep. He was in the habit of eating very heartily and fast, swallowing large mouthfuls, with very little mastication. There was evidence of some hereditary predisposition. I advised him to eat slowly and moderately; and for medicine, I prescribed three grains of subnitrate of bismuth and a sufficient quantity of extract of anthemis, to be taken in a pill thrice a day. This was continued till the end of the year, the fits becoming less frequent, and his stupid look gradually improving into one of ordinary intelligence. At the beginning of 1865 the fits did not recur more frequently than once in a fortnight. On January 21st the dose of subnitrate of bismuth was increased to five grains, and on June 10th two grains and a half of magnesia were added to the bismuth. This last change does not seem to have been beneficial. On July 18th the medicine was changed to ten grains of bromide of potassium in camphor water twice daily. On Septem-



ber 16th the dose of the bromide was increased to fifteen grains, and on February 17th, 1866, to twenty grains. Until this last date the fits had continued to recur about once a fortnight, but were generally attributable to some infraction of the rules I had laid down for his diet. In one of these fits he fell into a fossil-pit, and received a severe hurt. Since the last increase in the dose of the bromide he has had only two fits, the last of which was in November, 1866. From that time to the present he has been wholly free from fits. He has become very robust, has good average intelligence, earns good wages in the laborious and constant work of fossil-digging, and supports his widowed mother. He is carefully moderate in eating, and takes no strong drink, except a very little beer.

In many cases the phenomena are more complicated than in those I have related, and if they be, our treatment must be adapted accordingly. The gastric symptoms may be the chief, but not the only symptoms to be considered in planning our treatment.

J. E——, aged eight years, son of a butcher at Ely, was admitted as an out-patient of our hospital, on July 21st, 1855. He was well and sturdily built, but his head was rather large and his brows heavy. For the last five years he had been subject to fits, which had become more frequent of late. Sometimes more than one occurred in a week; the longest period of immunity had been three months. All the fits had been nocturnal, coming on in his sleep, generally about ten minutes after he had fallen into his first sleep; and were attended with complete insensibility, convulsions, lividity of face, frothing at the mouth, and biting of the tongue. After them he was very dull for a day or two, scarcely speaking. He had almost constant headache. His appetite was very hearty, but he took no supper. His

tongue was furred at its base, his pulse regular, and no worms had been seen in his evacuations. He passed five hours and a half every day in school. He was ordered to discontinue the afternoon school, to eat less, to have cold water applied to his head thrice daily, and every night to have a hot foot-bath and to take ten minims of tincture of digitalis; also to have an issue in his arm, and to take a dose of castor oil once a week. Under this treatment he remained free from fits until September 20th, when they returned. Two days afterwards he was admitted in-patient. While in the hospital he had repeated attacks of herpes labialis. He had a propensity to eat fast and largely. In November his nose bled on two consecutive days. I allowed him meat only thrice a week; on the other days he had pudding for dinner. He took occasional doses of magnesia with rhubarb; the hot foot-bath and digitalis were continued, and the issue kept open. The habit of eating fast was gradually corrected by the vigilance of the nurse. He was troubled with twitching and cramps, but remained free from fits, and on February 19th was discharged, with a caution to his friends to keep open the issue for a while, and continue the same plan of diet and regimen. Three years afterwards I heard that he had remained wholly free from the fits, and was perfectly well and strong.

In this case gastric disorder seems at least to have been one of the chief causes of the fits, and a regulation of the diet one of the chief remedies; but some of the symptoms indicate congestion of the head, and the employment of an issue in the arm leaves in doubt how much of the success was due to diet and regimen, and how much to the issue. We must sometimes be content to be thus left in doubt as to the relative value of the means we have used successfully. It is our first duty



to cure our patients; and we have no right to refrain from the employment of remedies that are likely to aid them, though the simultaneous use of more remedies than one does inconveniently complicate our reasoning on the case.

The case of Sarah H——, which gave the hint to my lecture, is, however, not what I should call gastric epilepsy. It is, indeed, genuine epilepsy—some of the fits have come on in sleep, and the tongue has been bitten—and she has some well-marked gastric symptoms; but these do not seem to be exciting causes of the fits. She suffers much from pain in the stomach; but this occurs very frequently without being followed by any epileptic symptom. She tells us that her first fit, (which occurred eleven years ago,) and also some of the subsequent fits, came on at, or just after, her dinner; but most of her fits have occurred at other and various times without any apparent connection with her meals. There is no epileptic aura proceeding from her epigastrium, or other stomach symptom precursory or premonitory of her seizures. Therefore, although she has been benefited by the treatment, having been free from fits for more than six months, I think it at least doubtful whether this benefit had been derived from the gastric remedies. She has, as you are aware, taken also of bromide of potassium; and of late she has been, as in-patient, under more favorable circumstances than she probably was at home.

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In connection with the foregoing interesting essay, we print from the August number of the same periodical an illustrative case:

ST. GEORGE'S HOSPITAL.—A CASE OF ANOMALOUS  
NERVOUS DISORDER.

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(UNDER THE CARE OF DR. BARCLAY.)

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The following is a brief account of the patient to whose case reference has been made. Dr. Reginald Thompson, medical registrar, has courteously obliged us with the particulars.

Emily S——, aged seven and a half years, was admitted January 27th, 1867. Ever since her birth she has been fretful, and for a very long time now has been subject to transient fits and great nervous irritability. The child never talked at all until seven years of age. She often complained of her head, and put her hand to the top of her head as if in pain there. Father and mother reported healthy; four other children all well. This child used frequently to go into uncontrollable fits of laughter, and would laugh till she fell. It was said that she was worse in cold weather.

On admission the child appeared to be in perfect health, and was well made; the head not large, the skull natural, rather of a simple countenance, but could not be said to have any vacant look. When touched on the shoulder or elsewhere sharply the child dropped immediately, helpless and quite unconscious, with a slight cry, coming to herself in about three seconds.

She was treated with gradually increasing doses of bromide of potassium (up to thirty grains) three times a day, and at first improved; but after two months confinement in the hospital seemed to affect her health, and the fits became more frequent. She was sent out in April.



## CASE OF COMPOUND FRACTURE OF THE SKULL, WITH RECOVERY.

*Abscess of the Brain.—Hernia Cerebri.—Paralysis.—  
Remarkable Discharge of Serum.—Loss of Speech.*

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BY EDWIN HUTCHINSON, M. D., UTICA, N. Y.

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On the afternoon of February 26th, 1868, a son of Christian Galli, of Utica, aged three years and eight months, fell down stairs, striking his head with great force against the corner of a stove. He was not made insensible by the blow, but screamed loudly as they carried him into the house. I saw him about an hour after the accident, and found him sitting on his mother's knee, intelligent, and making no complaint of pain; his skin cool, pulse moderate, and little to indicate that he had sustained a serious injury. On removing the cloth which covered his forehead, to my surprise, a mass of brain matter was noticed filling the wound in the scalp. The skull was fractured at the anterior portion of the right parietal bone.

In order to make a careful examination, I placed him under the influence of chloroform, and made a V incision down to the bone. The opening in the skull was a little more than one inch in diameter. A piece of bone about as large as a copper cent, had been driven in like a hinge, so that it remained at right angles to the surface. The lower edge could be plainly felt with the finger, and it was found that it had been forced down through all the coverings into the substance of the brain itself. The inner table was not much splintered, and but few loose pieces were removed. A small place was now cut away from the anterior edge of the opening to

make room for the elevator; this instrument was used, and the depressed bone restored as nearly as possible to its former position. An ounce of brain-substance was lost during the operation; very little blood escaped. The edges of the wound were brought together with adhesive straps, water dressing applied, and the child put to bed. He was quite bright after the effects of the anæsthetic had passed off.

The following is a brief summary of the subsequent history of the case:

February 27th, child doing well; wound kept constantly wet with solution of carbolic acid, one grain to the ounce. 28th, head cool; pulse moderate; appetite good; eyes natural, pupils not contracted; bowels have moved; wound nearly united by first intention. 29th, pulse 120. March 1st, pulse 120; slept well last night; everything favorable. 2d, pulse 128. 3d, pulse 132; ordered cathartic. 4th, pulse 140; restless. 5th, pulse 140; head hot; cold water applied; still quite restless; healthy pus discharging from wound. 6th, 7.30 A. M., pulse 132; he passed a restless night. The membranes forced themselves through the fissure in the skull, and stopped the flow of pus; they were cut away with scissors, and then a probe introduced about an inch; at first some serum escaped, and then over a drachm of healthy pus, together with some disorganised brain matter; there was some bleeding. Child slept while probe was used; pulse the same after probing; order wine, milk and beef tea freely. 5 P. M., pulse 128. 7th, 9.30 A. M., pulse 128; patient bright, pupils natural. The rapid pulse, and general irritation caused by the retention of matters within the skull, ceased as soon as the passage was opened for their discharge. 3 P. M., pulse 132 while awake, 116 sleeping; during the day a teaspoonful of pus escaped suddenly. 8th, 9 A. M., pulse 110. 9th, pulse 120; a tablespoonful



of pus gushed out, with a little blood. There is evidently quite an abscess in the brain with defined walls; the membranes protruding into the opening left in the skull, block it up so that the pus cannot be discharged; by probing every day deeply, exit has been given, and the brain relieved from pressure. There is now considerable cerebral disturbance; his eyeballs twitch rapidly and regularly from side to side. Order cathartic. 5.30 P. M., pulse 124; pus now discharges freely; bowels still constipated; repeat cathartic; eyes twitching as before; cerebral irritation continues. 10th, 8.30 A. M., pulse 114; eyes do not move so rapidly; bowels still constipated; repeat cathartic. 5 P. M., pulse 112 while sleeping; very little discharge from wound; eyes twitching regularly; bowels moved. Left arm paralyzed, and colder than right one; order bromide of potassium, two grains every two hours. 11th, pulse 112 awake, 100 asleep; very irregular. Passed a probe two inches, pressed aside the membranes, and allowed the escape of considerable dark colored pus. Skin cool; tongue moist; bowels have moved freely; child now screams constantly. 8 P. M., pulse 104; eyes move slightly; some discharge from wound; arm still paralyzed. 12th, 8.30 A. M., pulse 98 and regular; he moves his left arm, which is somewhat warmer. His eyeballs are now quiet and natural; the twitching has continued four days; the wound discharges more freely; continue bromide of potassium. 5 p. m., pulse 90 while sleeping; considerable pus flowed during the day; left arm again completely paralyzed. 13th, pulse 112 while awake; has a brighter expression, and better appetite; arm still paralyzed; bowels constipated; ordered castor oil. 14th, pulse 112; seems much better; can move his left arm; the paralysis has continued nearly five days; appetite improving; bowels have moved. 15th, pulse 116; has greater use of arm; 16th, pulse 112; is brighter.

18th, pulse 96 while sleeping, 116 while awake. The membranes and disorganized brain matter have now protruded themselves through the opening, even forcing the fragment downward and backward; thus far I have kept the mass constantly cut away with scissors. It grows rapidly, pulsates regularly, and is a real fungus or *hernia cerebri*. 19th, pulse 120; sleeps well; the hernia is about the size of a filbert, and is cut away. 20th, pulse 112. 21st, pulse 106; he worries considerably, and is constipated; ordered castor oil. 22d, pulse 104; hernia is again cut away; appetite excellent; bowels regular; sleeps well. The power of speech has been seriously affected; now says a few words; enjoys his playthings and is intelligent. 23d, pulse 104. After cutting off tumor, passed a probe deeply into cranium, and considerable serum escaped; this came undoubtedly from effusion following sub-acute inflammation of the serous lining of the ventricles. 25th, hernia protrudes slightly. 29th, pulse 112. Tumor pulsating regularly, and is as large as a pigeon's egg; is sliced off, but not to the bone; hemorrhage considerable; controlled with persulphate of iron. 30th, tumor three quarters the size of a hen's egg; child resisting the operation, was put under the influence of chloroform, and the mass cut away nearly to the bone; hemorrhage very severe, and controlled as before; pulse 120 after operation; the child perfectly intelligent. 31st, pulse 128; hernia grown rapidly since yesterday; applied solid nitrate of silver; general appearance good.

April 1st, pulse 120; tumor increasing; again applied the caustic. 3d, pulse 132 and feeble; tumor larger than a hen's egg, and composed of disorganized brain matter, coagulated blood and lymph; applied pressure with a bandage. 4th, pulse 140; remove bandage. He tore off a piece of the fungus as large as a walnut during his



sleep, and it bled freely; the father stopped hemorrhage with some persulphate of iron I had left in the house. 5th, pulse 148; in the afternoon nearly two ounces of healthy pus escaped suddenly from cranium. Since April 1st, his pulse has been steadily increasing, and he has shown signs of considerable irritation. 6th, pulse down to 128; patient much better.

7th, pulse 134; pus does not flow; talks and appears bright. 9th, pulse 128; tumor larger. 11th, hernia about the size of a hen's egg; tied it off with a silk ligature; bleeding stopped with persulphate of iron and snow. 12th, pulse 140; tumor grows almost as fast as it is cut away. 13th, pulse 120 while sleeping; restless when awake. 15th, pulse 144; tumor increasing; he is constantly fretful; bowels constipated; to have castor oil. In the evening a discharge of serum commenced from the wound, and continued until the 20th. The cloths on his head were constantly saturated with the fluid, although frequently renewed. His pulse became less rapid, and he appeared decidedly better as soon as the flow of serum began; the discharge was profuse, dropping rapidly from the wound when the head was inclined. 21st, pulse 134; the flow of serum ceased; about thirty ounces of liquid have been discharged during the last five days; he has a good appetite, but is fretful.

24th, pulse 140. Hernia has not grown since the 15th, when the serum commenced to discharge, proving conclusively, that this singular pathological formation, is not merely a mass of exuberant granulations, but that it is brain-matter more or less disorganized, with clotted blood, forced out by effusion within. The tumor is now firm, has a pink surface, and does not pulsate. He has been deaf for the past ten days; continue the bromide of potassium. 26th, pulse 128; tumor unchanged; patient

now able to walk a short distance when assisted, but reels when unsupported. May 4th, pulse 130; patient improving; tumor smaller. 8th, is strong, and walks easily though unsteadily. 9th. The discharge having ceased, pressure was now applied over the hernia, a hemispherical cork pad being used, with a band of rubber webbing. 11th, the tumor is nearly reduced; he still walks unsteadily. 14th, the cork pad was made more conical, so as to press the hernia into the skull, without preventing the scalp from growing over the wound; the rubber band answers well. 26th, the hernia is pressed in as far as possible, and the scalp is healing over the tumor; the boy now talks, hears, plays, and acts as well as he did before the injury, and one would scarcely credit that he had received such a wound. 30th, scalp heals slowly. June 5th, his parents took him to Montgomery County, and a few days afterwards he became perfectly deaf; he passed under the care of Dr. Morgan Synder, of Fort Plain, who wrote me June 19th, that the boy was entirely well excepting the deafness; the scalp had grown over the wound, and although the scar was impressible, and pulsated slightly, yet it was firm. His father has just informed me that the boy is still perfectly deaf, but otherwise, as healthy as could be desired.

There are many points of interest in the case just reported. In the first place, we notice that the child was not stunned by the fall, although the blow was sufficient to fracture his skull; he did not even suffer from the shock. It was providential that he escaped the dangerous symptoms which usually follow such injuries, and often herald an unfortunate result. A few days after the accident, the pulse became more frequent, the skin somewhat warmer, and the head hot. Everything indicated the formation of an abscess, and soon healthy pus made its appearance. So long as the wound discharged freely, the



symptoms were favorable, but the protrusion of the membranes into the opening in the skull, so often alluded to, made it necessary to introduce the probe. If the discharge was interrupted, the frequent pulse and restlessness would show at once the danger; after the probe was used, the relief was marked and immediate. The abscess had regularly defined walls, and burrowed downwards and backwards. This is proved by the fact that there were no signs of diffused abscess, and at length, the discharge of serum made it evident that there was some inflammation of the ventricular lining.

The paralysis was unquestionably due to pressure from effusion. As has just been intimated, there was sub-acute inflammation of the serous lining of the right ventricle, which being distended with fluid, pressing on the base of the brain, the result was paralysis of the opposite side.

The hernia was at first formed by the diseased arachnoid and pia mater. Afterwards, when the flow of pus had ceased, and the abscess was empty, the granulations from the brain made up considerable of its bulk. Finally, the capillaries which supplied it gave way, and blood clots and brain matter were mingled together. When the tumor was small it was quite firm, but afterwards it became soft, and could be easily torn. It will be noticed that at three separate times the growth increased rapidly, becoming as large as a hen's egg in twenty-four hours. This was not the result of the granulations, but was invariably caused by the accumulation of either pus or serous effusion within. This was the case on the 25th of March, and on the 5th and 15th of April. The tumor ceased growing the moment the flow of serum began, which proves conclusively that it was being forced out by the effusion.

It was good surgery, though not often recommended,

not to attempt to reduce the mass by pressure, so long as there were signs of inflammatory action within. When these signs disappeared, the rubber band was applied with success. It was often necessary to cut the tumor away to give a free place for discharge, and also, when the fungus was soft, to prevent the restless patient from tearing off a large portion, and so suffer from hemorrhage. The scissors was the best means used for this purpose; caustic and ligature were unsatisfactory.

A very remarkable feature, was the five days flow of clear serum. The quantity could not be accurately determined, but was very great. He passed but little urine during this period. The serum unquestionably came from the ventricles. Had pressure been used at this time the boy's life would have been sacrificed.

This adds another to the list of cases of considerable loss of brain substance, without the loss of intellection. The original injury, with subsequent abscess and hernia, made a very great deficiency in the original size of the anterior portion of the right hemisphere. To-day no evil results are seen from this cause. He is perfectly deaf, probably from some injury to the auditory nerve by pressure, or by its being implicated in the changes brought on by inflammation. As the deafness is total, it is likely that the lesion exists near the origin of this nerve, on the floor of the fourth ventricle.

The partial loss of speech for a time, would seem to indicate some change in the left hemisphere; the accumulation of fluid in the left lateral ventricle from the right through the foramen of Munro, bringing on the pressure which caused the aphasia. Still, is this not going out of the way to support a theory? A number of cases have been reported of this condition, where the pathological change has been upon the right side altogether, as found after death. As the wound re-



ceived by this child was upon the right side, it does not coincide with the theory of M. Broca and his supporters.

For two months the boy could not walk alone, although he was quite strong and had gained flesh rapidly. He could easily stand up if assisted, but could not take a step forward, or balance himself. This dizziness was neither caused by great debility or anemia. It was too marked from the first, and lasted too long. In fact he did not recover from it for nearly four months. The reason for this is to found in the unusual disturbance in the secretion of the cerebro-spinal fluid. It will be remembered that there is a communication between the sac of the spinal arachnoid and the ventricles. When from any cause the relation of the liquid contents of the brain or cord is made greater or less than natural, vertigo is the result. Here we find an unusual accumulation of serum in the ventricles, giving rise to various alarming symptoms, and even forcing a passage for its external discharge. The serous surfaces which gave up this secretion could not resume their healthy state rapidly, and no doubt kept the cerebral cavities distended sufficiently to occasion the vertigo.

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PART IV.—Psychological News.

Space will not allow us more than a mere glance at the interesting contents of these numbers of the leading foreign Psychological Journal. The second paper in the number for April, 1867, by Dr. T. B. Belgrave, On Asylums for the Insane in St. Petersburg, was republished a short time since in this journal, but we here select the following in relation to clinical instruction, and the preliminary education and qualifications for a resident medical officer:

“Instruction is afforded on a definite plan. Each physician delivers in a leisurely manner, short clinical remarks to his small class, in illustration of the lectures previously delivered by the professor. A knowledge of diagnosis, prognosis, and the details of treatment is imparted at the same time. Each student has one or two typical cases allotted to him, which he is required to observe and study minutely, taking extensive notes of their progress, recording all evident changes in their bodily and mental condition, the results of a quantitative and qualitative analysis of the urine, &c.

After having attended the University Course of Lectures on Psychology, and passed through the clinical ordeal, including the six months' residence *as an attendant*, a student is considered eligible for the position of resident medical officer in a lunatic hospital. The history of the Asylum, though short, has satisfactorily proved the compatibility of clinical instruction with successful domestic management and medical treatment. It has been observed that the majority of the public patients soon become accustomed to the few students who accompany the medical officers on their professional visits, when the young men comport themselves with ordinary discretion; indeed many of the unhappy creatures appear to derive benefit from the intercourse.”

We regard this an admirable expedient for imparting the preliminary clinical instruction so necessary to physicians that purpose to devote themselves to the medical care of the insane, and would be happy to see something of the kind adopted in this country.

Dr. Gray, in his annual address as President of the Medical Society of the State of New York, has called attention to this subject, urging strongly its expediency, indeed its absolute necessity as a part of medical education. We are glad to see by a note in the *Journal of Mental Science*, for April, 1868, that a Psychological Clinique has been established at Cambridge, by Dr. Bacon, of the Fulbourn Asylum.

The numbers for July, 1867, and January, 1868, contain strictures, by Dr. S. W. D. Williams, on a paper by Dr. Edgar Sheppard, formerly noticed in this journal,



and the number for October, 1867, has a rejoinder, by Dr. Sheppard.

We consider the papers of both gentlemen admirably illustrative of the practical working of the *professed* non-restraint system of England when pushed to extremes, and in this their chief value consists. It affords us great pleasure to find that the views we have long entertained respecting this non-restraint in England, are thus virtually indorsed by both these gentlemen; but as we propose to say something on the subject in the next number of this journal, we refrain from further remarks in this place.

The JOURNAL for July, 1868, thus remarks on the paper of Dr. George Cook, in reference to provision for the chronic insane poor of the State of New York:

“The paper with this title, which appears in the July number of the JOURNAL, will attract attention as the first labored effort in defence of separate establishments in America for the chronic insane, and is, moreover, of interest just at present to English psychologists, as giving an American view of a question which has lately been largely discussed in England, viz.: the desirability of building cheap supplementary asylums for the chronic insane and imbecile.

The main argument of the writer is founded upon an assertion, the truth of which he thinks he finds in the history of American legislation; that New York is unable, or unwilling, or both, to build sufficient hospitals for her insane; and, therefore, some other and cheaper method must be devised for the care of this unfortunate class of her children. He does not contend that the system of separate asylums for the chronic insane is the best in itself, but that it is best only under all the circumstances. He acknowledges that, were it possible to secure enough hospitals on the existing plan for all the insane of the State, he would not advocate a change; but this he believes to be impracticable, because for fifteen years, efforts have been made, without success, to secure the passage of a bill through the Legislature of the State of New York, for one or more State hospitals of this character; therefore he asks, is it not wiser to take it (the scheme of providing for the chronic insane in separate institutions) rather than adhere to the unattainable, and get nothing?”

Dr. Cook's views do not appear, however, to be endorsed by either his confreres, or by the editors of the *AMERICAN JOURNAL OF INSANITY*. It seems to be the general opinion in America, that the erection of incurable and cheaper hospitals for the chronic insane, apart from the curative establishments, is pernicious, and would be anything but a wise economy. It is true, they argue, that the history of legislation in the State of New York, during the fifteen years ending with 1865, supplies but one example of well planned, well directed and strenuous effort in behalf of the insane of the Commonwealth, viz.: in 1857 when the neglected condition of the poor insane, and the necessity of further State provision, were brought to the attention of the Legislature by the forcible report of the Select Committee on Charitable Institutions, Poor Houses, &c. The report was, however, accompanied by a bill providing for the immediate erection of two State Hospitals. This bill passed the Senate. "In the Assembly it passed a third reading, when its further progress was arrested by the premature adjournment of the Legislature."

The subject was not again called up until two years ago, when, almost in the midst of a civil war of unprecedented magnitude, and with an accumulated debt of vast proportions, the Legislature of the State responded at once, without discussion or dissentient voice, to Dr. Willard's appeal, and the Willard Asylum was created. And in further evidence that the State is *potens et volens*, and that there is no disposition to evade or ignore the just claims of the insane, the Legislature last winter, authorized the Governor to appoint a Board of Commissioners to select and contract for the site of a third State Hospital, to be located on or near the Hudson river, below the city of Albany.

The proposition to erect special asylums for the chronic insane, met similar disapprobation and defeat in Kentucky, Ohio and Connecticut, the first two making liberal grants to enlarge existing hospitals, in Ohio to the extent of doubling the capacity of two of her State Hospitals; while Connecticut has just passed a law authorizing the construction of a General State Hospital for the insane, at the cost of \$200,000.

In this connection, we may call attention to recent legislation in New Jersey, Iowa, Indiana, West Virginia, Nova Scotia and Canada West, where liberal appropriations have been made to enlarge or complete existing hospitals, and to Minnesota and Kansas, at present engaged in the establishment of State Hospitals for the insane.

In California, the Assembly Committee on State Hospitals, to



which was referred the Assembly bill creating a State Hospital for curables, at some point to be determined by a board of directors, and proposing to make the asylum at Stockton an institution for incurables, reported the bill back with a recommendation that the subject be indefinitely postponed.

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## S U M M A R Y .

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OBITUARY.—It is our painful duty to announce the death of Dr. Samuel E. Shantz, Superintendent of the Minnesota Hospital for the Insane, which took place at St. Peter, on the 22d of August last.

Dr. Shantz was born in Canada, educated for his profession partly at the University of Toronto, and partly at Cambridge, Mass. He served for a period as surgeon in our army during the civil war, and was afterwards connected with the New York State Lunatic Asylum at Utica, as Assistant Physician. Here he won the warm regard of his fellow officers for his uniform amiability and gentlemanliness of manner, and his evenly-balanced character and attainments. He left here to become the Superintendent of the Minnesota State Hospital for the Insane. For a short time previous to his professional engagement in this country, he had the great advantage of professional service under the eminent Dr. Joseph Workman, of Toronto. We had hoped to receive from Canada in time for this number a more detailed sketch of the short but honorable career of the late Dr. Shantz, and trust it may yet be furnished for our next.

The following minute and resolutions of the Board of Trustees of the Minnesota Hospital have been forwarded to us:

Died, at St. Peter, Minnesota, August 22d, 1868, of typhoid fever, Dr. Samuel E. Shantz, in the 33d year of his age. He was chosen Superintendent of the Minnesota Hospital for Insane in September, 1866, and entered upon his duties as such the ensuing November, when the institution was first opened. He had been connected with similar institutions about six years previously, and was called to this post from the State Lunatic Asylum, Utica, N. Y. On the 21st of May last, he was married to Miss Louisa G. Graham, of Utica, N. Y. At a meeting of the Board of Trustees of the Hospital, September 3d, 1868, the following resolutions were unanimously adopted:

Whereas, in the orderings of that Divine Providence, whose ways we may not fathom, but whose appointment we are to recognize as infinitely wise though often very dark to us; it has pleased Him in whose keeping are the issues of life, to remove by death our esteemed and efficient Superintendent, the late Dr. Samuel E. Shantz. In his death we recognize a great public loss. In the prime of his life, with his energies and hopes identified with this Institution from its beginning, and laboring with zeal in that specialty he had chosen for his life profession, he bid fair to rank high among those who have distinguished themselves in directing these great public charities. Called away just as the future looked so bright, with attachments and hopes making that future so promising, there is something inexpressibly sad in his removal. The best and most watchful of attentions, all that friendship, skill and care could do, were rendered, but in vain. It is ours to bow in reverence and bring home to our hearts the solemn lessons of this Providence. Therefore,

*Resolved*, That we the Trustees of the "Minnesota Hospital for the Insane," bear record of our high appreciation of the late Dr. Samuel E. Shantz, as Superintendent of this Institution, and the fidelity with which he discharged his official duties.

*Resolved*, That we tender to his father our sincere condolence in the death of a son in whom doubtless many hopes were centered, and especially to his young and afflicted companion, we offer our deepest sympathies in this her sad and sudden bereavement, with our earnest prayer that the God in whom her husband trusted will be her support in the time of her bitter sorrow and desolation.

*Resolved*, That a copy of these resolutions be signed by the Officers of the Board, and forwarded to Mrs. L. G. Shantz—to Samuel Shantz his father—to "THE JOURNAL OF INSANITY," the St. Paul and our local papers.

C. T. BROWN,

A. H. KERR, *Secretary*.

*President Board Trustees.*



It may not be out of place, as a proper accompaniment to the above resolutions, to give the following obituary notice which appeared in *the Gospel Messenger* of September 10th, published in this city:

At St. Peter, Minn., August 22d, Samuel E. Shantz, M. D., son-in-law of E. A. Graham, Esq., of Utica.

Dr. Shantz was called two years since to be Superintendent of the Minnesota Hospital for the Insane, then being established at St. Peter. He was discharging his difficult and responsible office with great success, and his death is announced by the secular papers of that State in terms of profound regret. The writer of this wishes to bear his testimony to his private virtues. Of a cultivated mind, a kind heart, and gentle manners, he attracted the regard of all he met. To these qualities he added a religious spirit and a warm attachment to the Church in whose faith and communion he died.

E. L.

[Dr. Shantz was born in Waterloo township, Canada, received his education at the University of Toronto, and at Harvard, where he finished his medical course; was for several years a surgeon of our army in Virginia, and afterwards second assistant physician in the New York State Lunatic Asylum, at Utica, whence he was called in 1866 to become Superintendent of the Minnesota State Lunatic Asylum, at St. Peter. Dr. Shantz was baptized in the chapel of Grace Church, in this city, October 12th, 1866, by the Rev. Dr. Gibson, chaplain of the Lunatic Asylum, and confirmed by Bishop Coxe at St. Paul's Cathedral, Buffalo, in the following week, on his way to Minnesota.

He had married an accomplished and most estimable lady of this city only about three months previous to his death. His life was gentle and *pure*, and his end was peace. It is a delightful satisfaction to us that his sick-bed was attended by a dear Christian brother who was once our own spiritual preceptor, the Rev. Edward Livermore, of St. Peter.—ED. MESS.]

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EPILEPTIFORM CONVULSIONS FOLLOWING A BLOW ON THE HEAD, &c.—C. B., aged 14, a carpenter's apprentice, living at Kingston-on-Thames, was admitted into Guy's Hospital on January 21, 1868. The patient has always been quite well until his present illness. About nine weeks ago, at 4 p. m., a heavy wooden trestle fell from a height of seven feet, and its blunt edge struck him on the head,

close to the median line, about two inches in front of the superior angle of the occiput, inflicting no wound, but occasioning slight subcutaneous swelling. He was rendered insensible for about three minutes, but he did not vomit. The same evening he could walk, and followed his occupation for three days subsequently. During that time, however, he was gradually losing his appetite. On the fourth day afterwards he had headache and remained in bed (except at meal times when he sat up.) On the seventh day he first had twitchings of the muscles of his hands superadded to the other symptoms, all of which still continued. A medical man being called in, stated that he thought the symptoms had nothing to do with the injury. On the eighth, ninth, and tenth days the headache continued, but there were no twitchings. On the eleventh day there was spasmodic contraction of the muscles both of the hands and feet; the limbs would become rigid, with the fingers extended, and he was jerked from his chair whilst sitting up at the side of his bed. These attacks lasted each from two or three to fifteen minutes; he was conscious during their continuance. Thus he remained during the twelfth and thirteenth days. On the twelfth day ice was applied to his head for two hours at a time, and then off for an hour, and this local treatment was persevered in for a week. Mercury was also administered internally for three days, sometimes every hour and sometimes every three hours, but not to salivation. On the fourteenth day, to the other symptoms was superadded temporary loss of consciousness with each muscular twitching; on the cessation of the muscular spasm he would become at once quite sensible.

All these symptoms remained until December 22 (the fifth week,) when they altogether ceased. During their continuance he was not asked to stand up, but he thinks he could have done so had the attempt been made.

On December 22, therefore, he thought himself quite well, except a little muscular debility, but on Christmas day he was able to walk in the garden attached to his father's house. During the latter part of December he was very careful in his diet, taking no beer or wine whatever, and walking a little each day in the garden.

On January 1, 1868, he dressed himself in the morning, but very shortly afterwards, without any preliminary headache or other uneasiness, twitching of his muscles again came on, and he went to bed. Before the evening of the same day he became at times delirious and furious, and was violently and generally convulsed, so that it required two men to hold him in bed during the continuance of a "fit." Between the "fits" he was quite conscious,



2d.—There supervened persistent headache (referred to the vertex,) and he continued being every few minutes convulsed, but not so severe as yesterday. In this condition he remained until his admission into Guy's Hospital. He was during this time able to sleep four or five hours at night, when the convulsions would cease.

20th.—He bit his tongue for the first time in a "fit." During the days just preceding admission he had, on four or five occasions during the "fits," passed his motions and urine involuntarily into the bed.

On admission, January 21, the boy was carried into the surgery, where he had a very severe epileptiform kind of fit, affecting nearly all the muscles, but more especially those of the extremities and the back; this lasted about fifteen minutes, when he was carried up into the ward by his father. He had a vacant stare, and as the father asserted he could not stand, no attempt was made to place the patient on his feet. He could grasp equally with either hand, and his grasp was a moderately firm one. His head was cool; the pupils were equal, and acted normally to the stimulus of light. When spoken to and asked to point out where there was pain and where he had been struck, he moved one of his hands (sometimes one and sometimes the other) sluggishly to the vertex, and with his fingers traced a line some three or four inches long, commencing half an inch to the left of the superior angle of the occiput, and thence running forwards across the median line to a point about an inch to the right of the anterior extremity of the sagittal suture. When the surgeon's fingers were applied to this same part, nothing abnormal was noticeable; the surface of the bone seemed quite even. There was no local tenderness, but upon pressing with the finger on the right parietal eminence, some peculiar nervous phenomena were developed. The boy became, as it were, slowly tetanized; his arms were thrust out straight, and his fingers became fully extended on the palms. His legs were also irregularly affected, being mostly extended—occasionally, however, more or less flexed. The muscles of his face participated in these spasmodic contractions. Gradually all this muscular action would cease; the time occupied by the phenomena from beginning to end lasted from forty to ninety seconds. During a quarter of an hour the same cycle of phenomena was repeated eight or ten times, and always when the same spot on the right parietal bone was touched. But the "fits" also came on twice or three times without the scalp being touched at all. During the "fits" the boy seemed semi-conscious, but between them there was no deafness; he could pro-

trude his tongue naturally; and the pulse and respiration were unaffected, except that they were both a little quickened.

He remained under observation for about twenty minutes. Mr. Poland decided to trephine the boy at the spot on the parietal bone whence the nervous symptoms seemed to start, and where the supposed seat of injury was situated. Accordingly, the scalp having been shaved, chloroform was administered, and Mr. Poland operated. He made a cranial incision and reflected back the flaps, and peeled off the pericranium, finding all the tissues external to the bone quite healthy. The largest-sized trephine was then applied at a spot on the right parietal bone one inch to the right of the sagittal suture, and one inch and a half in front of the superior angle of the occipital bone. A circular piece of bone was then removed. It was quite healthy, although a little denser than usual, requiring many turns of the trephine to cut through the tables; and there was a little adhesion to the dura mater, but not more so than is usual in skulls at the patient's age. The exposed dura mater, which pulsated with each beat of the heart, was to all appearance healthy, and did not bulge in the least into the trephine hole. The flaps of the scalp were then replaced, fixed in position with strapping and sutures, and the boy sent back to bed. An ice bag was applied over the seat of operation.

22d.—Slept some hours during the night. Pulse 118 and full; respiration 26. He has had no fit since the operation. Headache quite ceased; skin of natural temperature; pupils active and equal; is a little weak, but can move his legs and arms. He has not vomited. He was placed upon milk diet.

24th.—Absence of all symptoms denoting brain disturbance; countenance cheerful and bright; pulse 110; respiration 26.

27th.—Ever since the operation, the patient has not had a trace of the cerebral symptoms which previously existed. Pulse 75; respiration 23; appetite good; tongue natural; and takes bread in his milk.

February 3.—For the first time, to-day he was dressed and set up in a chair, and during this time the pulse was about 90 in the minute.

4th.—Just after having dressed and got up, and when the patient's face was apparently a little flushed, the pulse, whilst he was in the erect position, was 114.

5th.—Pulse 95. He was walking about the ward, and seemed quite well. Wound suppurating at its centre, but there had never been any bagging of pus beneath the flaps. Primary adhesion had nearly been completed.



14th.—The wound granulating, and but little pus discharged. The pulsations of the brain are distinctly visible. The boy seems to be as well as possible in his general health. In the erect position, the pulse is 75, and respiration 19.

26th.—The boy can run about without feeling any ill effects, but cannot carry weights, or even a chair, for any distance without pain shooting up to his head. Stooping very low also causes pain.

March 10.—He left the Hospital perfectly well.

He has been heard of so recently as August. He is well, and has never had any return of his complaint, and his intellect and movements are good and natural.

*Remarks.*—We have little to say on this peculiar and anomalous case. Here was a boy in perfect health, never having had the slightest approach to a fit or cerebral disturbance before the accident. The corner of a heavy trestle falls on his head at a certain spot; from that time forth he has fits of an epileptic character. The spot struck seemed to be the source of all the effects which afterwards ensued. That spot and the bone corresponding to it were incised and removed by the trephine. All symptoms immediately subsided and never reappeared, the boy becoming perfectly free from all cerebral symptoms. There was no depressed bone, no fracture, no appreciable disease in the scalp, bone, or dura mater. Many conjectures and theories have been suggested. We offer this case to the Profession for their judgment in the matter. Would this boy have got well had the trephine not been used? Was the operation justifiable? All we can plead in defense of the practice is the ambiguous phrase—"The end justifies the means."—ALFRED POLAND, F. R. C. S., in *Medical Times and Gazette*.

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CASE OF EPILEPSY CONNECTED WITH VESICAL CALCULUS, CURED BY LITHOTOMY.—Few diseases have a greater variety of exciting causes than epilepsy. It is proximately dependent on the excitability of a portion of the central nervous system, but it generally requires at the same time the operation of an adequate irritant, either centric or peripheral. Of these excitants, diseases of the genito-urinary organs are not the least important, and the case I am about to relate is an instance, sufficiently rare, of epilepsy resulting from stone in the bladder.

John Greig, a little boy, five years old, was sent to me by Sir James Simpson in October, 1865. He had all his life suffered more or less from dribbling of urine, pain in the bladder, and other symptoms of stone. Between the ages of one and three years these

were especially severe, and at that time he also became subject to well-marked epileptic fits. Gradually during the next two years of his life the urinary irritation diminished; intervals of several weeks intervened between the fits; and the child, from being thin, pale, and unhealthy, grew stout, ruddy, and intelligent. The last few months, however, had been marked by a grave recurrence of both disorders, and the parents were anxious to give him a chance of permanent relief.

At the first examination the urine was muddy, full of epithelial debris, and urates; but by the use of bicarbonate of potash and demulcents it became quickly more healthy, and as a stone could easily be struck by the sound, I performed, on the 10th of November, the ordinary lateral lithotomy with the help of Drs. David Simpson, Black, and Inglis. The only peculiarity of the operation was that I found the stone lying on a ledge anteriorly, though the child was in the recumbent position. In this there could be no mistake, because, being at first unable to touch it with the forceps, I introduced my finger, dislodged, and at once removed it.

That night the patient slept pretty well, but at five o'clock next afternoon a series of fits came on. Each lasted only two or three seconds, but for several hours they occurred with great frequency. Similar seizures took place on the 12th and 13th, but were relieved by the application of mustard to the neck, and the administration of four drops of morph. sol. in a dessertspoonful of camphor mixture.

On the 14th, I began the use of bromide of potassium, and the fits at once ceased. On the 25th, the urine began to come by the urethra, and everything went on favorably till the 1st of December, when the wound took on an unhealthy action, orchitis attacked the left testicle and the epilepsy returned with its former severity. The permanganate of potash and warm fomentations were applied, and matters were speedily brought again into a satisfactory condition. In another fortnight the perineal wound had completely closed, the child was running about, and the only remaining inconvenience was slight incontinence of urine. A few days ago, or two years and a half after the operation, I made some inquiries about the boy, and found that the urinary organs were quite normal, that he had not had a fit since December 1865, and that, in short, he was perfectly robust and healthy.

In this case there can be no doubt that the exciting cause of epilepsy was the irritation produced by the calculus; and it is interesting to note the increase and diminution of the fits as the



condition, both before and after the operation, improved or retrograded. The bromide seemed to have at first a calmative effect, but it was evidently powerless when the peripheral irritation became intense. I attribute none of the ultimate benefit either to it or the sulphate of zinc, which was afterwards given for a week or two. The removal of the stone was the means of cure, and there is good reason to hope that the operation has permanently removed the two very painful diseases from which the little patient suffered.—Dr. JOHN DUNCAN, in *Edin. Med. Journal*.

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The relation between head and heart in the physician, and the importance and influence of this relation, is thus beautifully and truthfully expressed by Prof. Sir J. Y. Simpson, in his address to the Edinburgh medical graduates, August 1st, 1868 :

THINKING, DOING, FEELING.—In some professions and occupations, man's principal duty is to think; in others, his principal duty is to do. The practice of physic and surgery calls for the constant and resolute exercise of both qualities—of thought alike and of action. It is, however, the part of the medical practitioner, not only to be ready to think and act for the relief and cure of his patients, but also to feel for them in their sorrow and suffering. An unsympathizing physician is a physician bereft of one of the most potent agencies of treatment and cure. He knows not, and practices not, the whole extent of his art, when he recklessly neglects and eschews the marvellous influence of mind over body. For sometimes kindly and cheering words or looks from the physician are to the patient of more real worth than all his physic.\* They secure the sick man's confidence and gratitude; they rouse his hopes and courage; and they even intensify the good effects of the physician's more direct therapeutic measures. Yes—let all of you cultivate to the uttermost the steady manliness of hand and head which our profession so urgently demands; but do not despise that gentle womanliness of heart which the sick, in their depression and pain, so often look for, and long for, and profit by. Be to every sick man his beloved, as well as his trusted physician.—*Edin. Med. Journal*, September, 1868.

\* Sunt verba et voces, quibus hunc lenire dolorem  
Possis, et magnam morbi deponere partem.

# AMERICAN JOURNAL OF INSANITY, FOR JANUARY, 1869.

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## NOTES OF A VISIT

*To some of the principal Hospitals for the Insane in Great Britain, France and Germany, with observations on the use of mechanical restraint in the treatment of the insane.*

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BY A. O. KELLOGG, M. D.

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Circumstances occurring unexpectedly in the spring of 1868, enabled the writer to realize a long and fondly-cherished desire to visit the Old World—its monuments of art and industry, the developments incident to centuries of enlightenment, its charitable institutions, and, more especially, those devoted to the care and treatment of the insane.

Of the latter, twelve of the largest and best known were visited; the order in which they were taken depending on the route necessary to visit other objects and scenes of more general interest.

The first asylum visited was at PRESTWICH, in the suburbs of Manchester. The morning was delightful, and we resorted to our usual and favorite mode of jaunting—the top of an omnibus. The drive was very pleasant. The road for several miles was lined with villas, which were surrounded with high walls, within which were beautiful lawns and flower plots. Why



these snug homes of the middle classes should be so shut in by high walls, that he only who travels on stilts ten feet high, or on the top of an omnibus, can see them, we are unable to say. These walls are certainly not necessary to prevent the too curious gaze of the traveler, for the shrubbery in most cases is sufficient for this. The light iron fence so common in America seems far preferable. It looks less exclusive and less selfish, as though one was ready to share the beautiful with his fellows, at least when it can be done without detriment or serious inconvenience.

When we arrived at the asylum we found Dr. Holland, the superintendent, absent, but were politely received and entertained by Drs. Watson and Rice, his assistants, and shown over the establishment. There are about one thousand patients here. The classification seemed deficient. Two hundred and eighty patients take their food in one large dining room, and sleep in twelve dormitories and twenty-seven single rooms. Extreme violence or excessive filthiness are the only necessities for separation. Moderate noise and disturbance must be endured by the most quiet. The feeble are put in hospitals by themselves, and there is a detached hospital building to accommodate thirty-six sick persons. The strong shirt and canvass gloves are the only means of restraint employed; but bleeding, bathing, and in some cases large doses of tartarized antimony are used freely with patients who are greatly disturbed; and those who persist in soiling themselves frequently, are sometimes treated to the "refractory bath," and that, too, *continued* longer than is absolutely necessary for mere cleanliness.

Besides the superintendent's house, there are twelve distinct structures connected by corridors, six on either side. There is also a structure for infectious diseases.

The grounds of the Prestwich Asylum are very beautiful, and laid out with much taste. Each building has its own large airing court, and these are sometimes terraced and laid out in flower plots, with gravel or asphaltum walks. Flowering shrubs are in profusion. Rhododendrons, laburnums, lilacs and magnolias were in bloom, and almost every ward contained pot plants, which are carefully watered and tended by the patients. Nearly every window was occupied by singing birds, whose notes rang through the halls, giving an air of cheerfulness I had never before witnessed. A band of thirty-four performers is made up from among the employès, and their playing at regular intervals gives great pleasure to the patients. There are also weekly reunions, in which patients of both sexes and attendants mingle promiscuously, under the charge of a medical officer.

The clothing of the patients was uniform in all the halls. There is a small theatre, as at Utica, the company made up from among the patients and employès. There is a detached chapel, a very pretty structure, surrounded by lawns and flower plots elegantly kept. The patients looked very healthy, and seemed as happy as their condition would admit of. The diet is generous, and, since this has been more liberal, there has been less phthisis. The wards are well ventilated, and are warmed by open coal fires; the only inconvenience, I was told, of open fires, is the burning of shoes; the fireplaces in the more disturbed wards are covered by a grating. Little medicine is given, most of the cases being chronic. Bromide of potash is given continuously for months in cases of epilepsy, with the effect, in many cases, of keeping off the paroxysm, but it is said to return when the medicine is suspended. The epileptics, of whom there are a large number, are separated as much



as possible. The house was scrupulously neat in all parts. Bread is baked, and ale, which is given regularly to all, is brewed, and the meat butchered on the premises. General paralysis is very prevalent, 50 cases in 500 men, and 31 in 525 women patients.

The next institution that came in our way was the ROYAL EDINBURGH ASYLUM, at Morningside, near Edinburgh. This contains about 700 patients. The buildings are very old, having been erected mostly, we understood, in 1806. The dormitories are large and much crowded, the iron bedsteads standing so near that occupants could easily reach from one to another. Everything was scrupulously clean. The patients are much employed, and some kind of work was going on in every ward but one. The women are gathered together in large day rooms, and when we entered they looked up, but continued working and talking. On some wards a few left their work on seeing a stranger, and requested to go home, repeating the old assurance that they were well. Those that work are treated to a daily lunch at noon, while the idle must wait till 2 P. M. for dinner. This meal, on the day of our visit, consisted of boiled beef and cabbage, with bread, and was plentiful and well served. The old fashioned short tined forks, and knives only sharpened for about an inch, a short distance from the point, are used, though from the infrequency of accidents from knives and forks this precaution seemed unnecessary. The padded room is in use here. The camisole, with a short skirt reaching just below the knees, is used as a means of restraint among women patients. Those that are violent and obscene, as well as destructive, are restrained by leather mittens locked at the wrists, which struck me as more uncomfortable than the leather muff used with us, as not admitting of the same ventilation for the hands. Smoking of pipes is

allowed freely in the day rooms, and some were indulging in the luxury as quietly and leisurely as though "taking their ease in their inn." The rooms are heated by open coal fires, and but one accident has occurred since the opening of the institution, and even this might have happened in any "well regulated family." Pictures were hung on the walls of nearly every ward, and plants, which the patients take delight in tending, were in most of the windows, together with singing birds, as at Prestwich. On the whole the patients appeared very comfortable, and a certain homelike atmosphere which prevailed pleased us. There is not that uniformity of apparel here observed as at Prestwich, which struck us favorably, though in some wards all were dressed in the same way. There are many single rooms, but a large majority of the patients sleep in dormitories. The airing courts here are very fine. Every two or three wards have their own airing court, and, except those for the more refractory patients, they are beautifully laid out, and the lawns and walks neatly kept, and bordered with hedges and flowering shrubs. These courts are separated from each other by high walls laid in mortar, but these walls are so densely covered with foliage, and the grounds so well stocked with flowering shrubs, as nearly to take away the appearance of confinement. The lawn in front of the main building is very fine and well kept.

Here, as at Prestwich, to one accustomed to twelve divisions the classification seemed very imperfect; the quiet and noisy, the neat and slovenly, the violent and peaceable, the modest and the obscene, are much more promiscuously mixed up than with us, and strange to say, they here claim it as an advantage; a doctrine that most of our convalescents, and quiet but moderately demented patients, would hardly subscribe to, however high the medical authority given in support of it.



The means of employment here are very extensive and complete; and the assurance that much useful labor was done by the patients was confirmed by many evidences about us. One room into which we were shown was a printing office. Here the report is printed, and the *Morningside Mirror*, the patients' journal, in character similar to the *Opal* once published at Utica. In the tailors' shop many were making useful garments for their fellow patients. One talked very learnedly and wisely about America and American politics as he plied his goose, not knowing that I was from that "land of the free." Carpenters were pushing the plane in their large shop, and blacksmiths were making the anvil ring in theirs. In one place we counted nine sons of St. Crispin busily pegging and stitching. In one room about twenty women (whose tongues never ceased) were busily engaged making and repairing sea-weed mattresses, and in another some forty or fifty were quietly sewing. They looked up as we entered, but nearly all kept their seats and plied their needles steadily. Such steady, varied and systematic employment I had never seen before, nor have I met with it since either at home or abroad; and how much this influences the unusual quietude of the Morningside Asylum will readily be perceived.\*

\* In illustration of the labor performed at this institution, we here give the number of articles made and repaired, and the estimated value of labor in improvements and repairs of buildings: 85 Jackets; 112 Vests; 208 pairs Trousers; 357 Plaid Jackets; 492 pairs Drawers; 267 Bonnets; 154 Stocks; 9 Tweed Suits; 406 pairs Shoes; 17 pairs Boots; 55 pairs Braces; 64 Key Belts; 245 Print Gowns; 20 Drugget Gowns; 20 Muslin Gowns; 8 Linen Gowns; 158 Flannel Chemises; 374 Cotton Chemises; 178 Plaid Petticoats; 120 Colored Petticoats; 6 White Petticoats; 629 Aprons; 530 Night Gowns; 485 Towels; 363 Pillow Cases; 103 Roller Towels; 598 Sheets; 95 pairs Blankets; 642 Shirts; 288 Night Caps; 38 Window Curtains; 36 Table Cloths; 457 pairs Knit Stockings; 198 pairs Refooted Stockings; 58 Napkins; 42 Handkerchiefs; 72 Slip Bodices; 76 pairs Drawers; 18 pairs Stays; 64 Knit Collars; 14 pairs Sleeves; 4 Habit Shirts; 46 Dress Caps; 20 yards Lace; 100 Knit Worsted articles; 6 Smoking Caps; 30 Quilts; 18 Toilet Covers; 10 gross Buttons made; 8 Shawls; 9 Chair Covers; 1 Pulpit Bible Cover; 1 Pulpit Cushion; 1 Sofa Cushion; 10 Flannel Underdresses; 2 Sofa Covers; 4 set Window Curtains; 37 Mattresses; 4,080 Dusters

The medication, to judge from the apothecaries' shop and the assurance of the officers, is quite simple. Bromide of potash has been much used in epilepsy, and with the usual results already noticed in another place. It has been given here in some cases for a whole year, with the effect of warding off the epileptic paroxysm. It returns, however, invariably, when the remedy is discontinued.

What impressed us very favorably here were the hospital rooms for the sick and feeble; the cheerful coal fires, comfortable lounges and beds, and the careful and attentive nurses, gave these rooms a character we would like to see more common in America. There is much general paralysis here, among men patients more especially; most of these cases are congregated together. Among the women it is more common than with us, if I am to judge by the statements of the officers. A reunion is allowed here once a week, as at Prestwich. The amusements for men are chiefly billiards within and ball playing without. We were on the whole much pleased with the condition of things in general at the Morningside Asylum. The number of patients admitted into the Asylum since its foundation now amounts to 6,865, of whom 2,619 have been discharged recovered, being in the ratio of 36.6 per cent. These results are gratifying, and will compare favorably with those of other large institutions.

made; 15 Pillows, large; 59 Window Blinds; 53 Straw Ticks; 290 Sundries. Articles repaired:—66 Mantillas; 1,166 pairs Stockings; 109 Aprons; 300 Plaid Petticoats; 430 Colored Petticoats; 56 Flannel Underdresses; 106 Aprons; 13 Shawls; 35 Handkerchiefs; 37 Collars; 20 pairs Stays; 30 pairs Sleeves; 78 pairs Blankets; 244 Pillow Cases; 51 Table Cloths; 24 Roller Towels; 22 Chair and Sofa Covers; 400 Sundries; 1,704 Shirts; 6,138 pairs Plaid Drawers; 560 Gowns; 76 Flannel Petticoats; 30 White Petticoats; 482 Chemises; 306 Flannel Chemises; 80 Night Gowns; 50 Night Caps; 30 Slip Bodices; 19 Habit Shirts; 112 Bed Covers; 400 pairs Sheets; 36 Toilet Covers; 48 Window Blinds; 50 Table Napkins; 6 Crumb Cloths. The estimated value of the labor of Carpenters, Blacksmiths, Masons, Painters, Printers, &c., £864 5s. 2d.



On our arrival in London, the first hospital visited was ST. LUKE'S, under the medical care of Dr. Ellis. To the politeness of Dr. Ellis we are indebted for much valuable assistance in pursuing our hospital investigations, and for many interesting facts illustrative of asylum care and treatment in England. There are only about one hundred and fifty patients in St. Luke's. The wards are very comfortable, but here again classification is deficient. There are only two classes in St. Luke's, but the more noisy, violent and destructive patients are not retained here, but sent to other hospitals. The building is more than one hundred years old, and is situated in one of the most densely populated districts of London. From St. Luke's we went to HANWELL, about half an hour's ride by rail from London. Like all English asylums, Hanwell has fine grounds. The avenue leading from the main road to the building is broad and lined on either side by trees and shrubbery. Flowers also were in profusion. On one hand as we passed up to the building, we could see the women patients enjoying themselves on the lawn, and on the other the men, but so completely shut out from each other that observation from either side was quite impossible. On arrival at the asylum we sent our card to the physician in charge, and after waiting more than an hour, a gentlemanly young man made his appearance, with many apologies for having kept me waiting so long, saying that just at the time he was the only physician in charge of one thousand patients. This, of course, we took as a sufficient excuse. His pressing duties did not permit him to accompany me through the establishment, and so much time had been taken up in waiting, that my observations were very hasty and imperfect.

We were turned over to the inspector, a sort of chief

supervisor or *factotum*, whose duties, as we learned from him, were to watch and report everything to headquarters. He gave his opinion with as much confidence as a young expert, backing it with the result of fifteen years' experience, and perhaps it was worth as much as that of his juniors in years but superiors in office. Hanwell contains about seventeen hundred patients, seven hundred men and one thousand women. There is one attendant for every fifteen patients. The dress is uniform. The only restraint used is the quilted canvass dress. What do you do with your persistent masturbators? we asked the above official. "Let them masturbate till they die," was the prompt reply. Do you not consider that a more extended mechanical restraint, properly regulated and under strict medical supervision, would be beneficial in certain cases? Certainly, said he, promptly, but medical authority is not supreme here. That is in the hands of others, who frequently have little idea of the necessities of certain cases we have to deal with, and public opinion is against it; and no medical man can advocate it without losing caste with the commissioners, whose unfavorable report as to the treatment of his patients will deprive him of his position. We hope this will not fall under the eye of the visiting commissioners of Hanwell, for this faithful servant of fifteen years might be deprived of his position for speaking his mind freely on the subject of mechanical restraint. Seclusion in padded rooms is much resorted to, and we should judge takes the place of restraint to a great extent; but in the efforts to dispense with this the destruction is sometimes fearful. We were told by a medical man once connected with one of the largest London hospitals, that sometimes two whole suits were destroyed in a day, and a bed at night.

One of the most pleasant remembrances of visits to



foreign asylums is that to COLNEY HATCH; and no small proportion of this is due to Dr. Marshall, the able, energetic and accomplished superintendent of the female department. Colney Hatch Asylum contains about two thousand patients. Of eight hundred and twenty-six men patients, three hundred are epileptics. These are mostly classified by themselves. The building is immense, and is warmed mainly by steam; the radiating surface in the warming chambers consists of cast iron steam plates, instead of piping. There is no forced ventilation, this is secured by open fireplaces in the various wards. The ventilation was not as perfect as that by fans.

Some idea of the extent of Colney Hatch Asylum can be formed, when we say that in walking through all the wards, Dr. Marshall said we had traveled over six miles; and, from the feeling of fatigue experienced, we judged he was not far astray. Everything here is on an immense scale, kitchens, bakery, laundry, shops for various mechanical purposes, and a brewery to correspond. Ale forms part of the regular daily ration. (This being included in the provision account, and not in the department of medical supplies, the expenses of medication, therefore, appear small when compared with hospitals in the United States, where ale is charged as a medical supply.) We could but ask ourselves the question, how would a proposition for an appropriation to build a brewery for a public asylum, be received by the legislature of any of our States.

The bread, meat and vegetables, were in preparation for dinner at the time of my visit, and were excellent and bountiful, and the condition of the patients also gave good evidence of this.

Leather mittens and strong canvass dresses are the only restraint used. Of padded rooms there were the

usual number. There are many chronic cases here—a very large proportion of the inmates struck us as such. There are also many cases of general paralysis, but few of acute mania. In fact, we were told by Dr. Forbes, the resident physician of one of the largest workhouses, (Shoreditch,) that so full were the London asylums of chronic cases, that many insane brought to him must remain till they recover or become chronic before he could get them away, though he had no means of treating them as cases of acute insanity should be treated. In the more quiet wards there are four attendants for every fifty patients; in the more disturbed there are seven for the same number. Smoking is allowed on all the wards, and pictures and clocks are also furnished, even to the most disturbed. The bed covering for the most destructive patients was canvass, quilted and lined with flannel.

There was an air of domestic comfort and contentment in the wards of Colney Hatch Asylum, which was pleasing, and conveyed the impression that all was done that could be to relieve the tedium of confinement and contribute to the happiness of the unfortunate patients. Birds are in the most excited wards, and are carefully attended by the patients. As we passed through one ward a starling cried out, “crazy! crazy Willett! Willett!” On asking what *Willett* signified, we were told it was the name of the bird’s owner. We counted *fifteen* pianos in the various female wards. Flowering plants also were in profusion in pots on all the wards. We were told that the patients sometimes destroyed them, but this was rare, as they usually took pleasure in watering and tending them. About ten per cent. of the patients at Colney Hatch are under medical treatment, and three per cent. are filthy in habits. For every five hundred patients there is a hospital ward containing forty beds.



Each of these wards has three special nurses, and by day these nurses are assisted by quiet demented patients selected for the purpose. These wards were admirable, and everything that could be desired; at least it seemed so, and we could but wish such more common in other asylums of Europe, and America especially. The staff of attendants here, as in all the English asylums, impressed us as very superior. They all dress in uniform: that of the men resembled the uniform of railroad officials in America; that of the women consisted of a light blue dress, with white aprons and head-dresses, very neat and becoming. All rose as the doctor entered, and remained standing till he left the ward. Their intercourse with the doctor was characterized by ease and dignified respect. We were informed that attendants are pensioned for long and faithful service by act of Parliament.

The next asylum that came in our way was at SIEGBURG, the cradle of German Psychology, and for many years the scene of the labors of the great Dr. Maximilian Jacobi. Siegburg is about an hour's journey from Cologne by railway. Crossing the bridge which spans the Rhine opposite the great cathedral, we took an early morning train, and passed through a very rich and highly cultivated district to the little town situated on the Sieg, a small tributary of the Rhine. Peasant women were harvesting immense crops of wheat, and we here realized for the first time how the men in Germany and France can do so much soldiering and fighting without starvation.

The building is an old castle which crowns an eminence overlooking the town, and is very ill adapted to asylum purposes. Though the rooms are large, the ventilation, and nearly everything which is considered necessary in our day, is deficient. Nevertheless Dr.

Nasse is doing a noble work here in the face of many difficulties. No chronic cases are admitted, and if patients do not improve after remaining a year, they are sent away to make room for others. The institution seeks to be in every sense of the word a *Heilanstalt*, an institution for cure, and it lives up to its professions to a certain extent; but, limiting the stay to one year, it will readily be seen by all who know the protracted nature of a large proportion of cases of insanity, that many must go away half cured, who will ultimately recover at home or in other institutions. The restraint used here is about the same as with us, and applied to the same class of cases. Dr. Nasse regards mechanical restraint as a positive necessity in certain cases, and does not hesitate to apply it when in his judgment it is called for. This is also the practice of all German asylums, as Dr. Nasse informed us. The diet table is very liberal; and the medical treatment is much like our own, tonic and supporting, involving a very liberal use of wine, bark, iron, and that class of remedies. We retain a very pleasant remembrance of our brief visit to Siegburg. Dr. Nasse seems admirably fitted for the great work he is so unostentatiously performing, and worthy of the honored name that he has inherited.

June 7th was devoted to visiting the two largest of the French hospitals, the SALPETRIERE, and BICETRE, the former exclusively devoted to women, the latter to men. The apartments for the more excited, in the former, consisted of twelve small, isolated buildings, about ten feet square, situated in a court yard. These buildings are warmed by steam. Within they were scrupulously clean. The patients were running wildly about the yard, some of the more violent and destructive in camisoles. No other restraint is used. The apartment for epileptic children was very complete, and seemed



well suited to this unfortunate and exceedingly troublesome class of patients, the number of which greatly surprised me. Here would be seen a little fellow carefully bandaged in his chair to prevent injury from sudden attacks of his malady, and there would be a large soft mattress spread out on the grass under a tree, where these little fellows were tumbling about, carefully attended by nurses, who knit or plied their needles as they watched. At night they sleep in cribs made of light iron rods and painted green. Bromide of potash is much given, but it only controls the fit. Everything about this immense establishment bore evidence of great neatness and order, and the patients, especially the old demented women, looked very comfortable. The diet is liberal, and as I passed through, the wine ration was being distributed for dinner. A patient who was assisting in the distribution offered me a cup of the beverage with true French politeness, which I thankfully accepted, as the day was warm, and I was very thirsty. It was the *vin ordinaire* of the country, or common claret, and we thought might grace the table of any gentleman. There are about 1,200 patients here. As we passed out we were shown into a small room, where a large book was pointed out and a pen placed in our hand. We soon perceived that, like others who had preceded, it was expected we should write down our impressions of the visit; as these were very favorable, we took pleasure in putting down a few words of English in this polyglot record.

At the Bicêtre the same excellent order was found, and the patients generally were as comfortable as at the Salpêtrière. The restraint used here for the violent and destructive patients is the camisole, and bench and bed straps. The shower bath is much used, as is also the refractory bath.

The manner of secluding and confining the more violent class of patients was extraordinary, differing from anything we had ever before seen.

It consisted of a large circular building, more resembling the cage of a parrot than anything we can think of. The perpendicular iron bars extended from the floor some fifteen or twenty feet to the roof, which they seemed to support. In this cage we saw some ten or fifteen patients, who indeed seemed quiet enough, for they came up to the bars and put their hands through to salute us as we passed along the platform surrounding this singular structure, which stands here in the midst of the most refined city of Europe, a monument of past barbarism.

We were painfully impressed by this mode of confinement, never having seen its like before, and we hope never to see it again. Aside from this cage, we were well pleased with the condition of things at the great Bicêtre Hospital.

The next asylum we were enabled to visit was the RICHMOND INSANE ASYLUM, Dublin. There are three separate buildings here, in which there are about 850 patients, mostly cases of chronic insanity and epilepsy. Connected with this asylum there are also hospital buildings for about 35 patients of each sex.

There is great aggregation of patients here, 280 dining in one large hall, to the music of the melodeon. Everything was in good order, and the patients looked comfortable, much more so than at the homes from whence they came, judging from what we saw in the towns and country between Dublin and Killarney.

From the Richmond Asylum we drove in an "outside car" to ST. PATRICK'S HOSPITAL. This, from its association with the strange wit and poet who founded it upwards of a century ago, and died insane himself, we were



very curious to visit. After winding through many narrow streets (not as clean as we have seen) our "car" halted beside a small gate in a high stone wall. "Here is St. Patrick's, your honor," said our Irish jehu, as he pointed to the gate bell with one hand, and held out the other for his half-crown.

We thought things looked rather unpromising for St. Patrick's, if we were to judge by the street in which he was about to leave us. To our ring the door was soon opened, and across a small but very pretty lawn, dotted with flower beds, we saw the front of the Hospital, a three story gray stone structure, inscribed with large letters, the inscription reaching nearly across the entire front:

"ST. PATRICK'S HOSPITAL, FOUNDED BY JONATHAN SWIFT,  
DEAN OF ST. PATRICK'S, A. D. 1745.

Immediately the four lines written by the Dean on his own death took possession of my mind, and would not suffer themselves to be ejected while we remained on the premises:

"He gave the little wealth he had  
To build a house for fools and mad,  
And showed by one satiric touch,  
No nation needed it so much."

We were most politely received by Dr. Lawless, and conducted through the establishment. On asking the doctor if the house contained any memorials of the Dean, we were shown into a room where an old writing desk, with brass handles, was pointed out as something once belonging to Swift. It was surmounted by a bust of the Dean, which had also come down from his times.

We regarded this old writing desk with much interest, and thought that perhaps the very lines above

quoted might have been written at it, or perhaps "Gulliver's Travels," "Tale of a Tub," or something else that the world has taken delight in.

The hospital consists of a main building, three stories high, and two wings running back from this, parallel to each other, of the same height, and only about fifty feet apart. It contains about 150 patients. The rooms are large, high, well ventilated, and well furnished. The corridors are broad and well lighted, there being rooms only on one side.

The hospital has been accustomed to receive chronic cases from private asylums, and about two-thirds are pay patients, and belong to the higher classes. These people are made as comfortable as their condition will admit of. There is no regular employment here, the patients never having been accustomed to labor. Most of the patients occupy single rooms, only fifteen of the one hundred and fifty being in associate dormitories, and these contain only three beds. There is only one padded room. The exercising grounds are arranged differently from any that we had seen before. Each wing is surrounded by a wall, between which and the building there is a broad space. Outside these walls are the ornamental flower gardens, and lawns for the exercise of the patients. Here they are allowed to wander and enjoy themselves, but if they become excited or destructive, they are passed through a gate into this secure inclosure, where they can injure nothing, be better controlled, and still have the open air. This was a novel arrangement, but Dr. Lawless said it worked well, and held out inducements for self-control.

The doctor pointed out to me a device of his own for flooding his drains at pleasure, by turning the waste water from a stream serving a manufactory in his immediate neighborhood, which was admirable. We were



much pleased with St. Patrick's Hospital, aside from the associations that linger about it.

The next and last asylum visited was at Killarney. This is a fine building beautifully located near the town, and in immediate vicinity of the famous lakes. There are many cases of chronic insanity here, but also a fair proportion of acute. The diet, to judge from the dinner we saw, (bread and coffee merely,) seemed rather slender; but Dr. Lawlor assured us it was a fast day, and that the patients were better fed than at their own homes, which assurance we could readily believe from previous observations among the peasantry.

The attractions of scenery here were so great that our visit to Dr. Lawlor was very brief; but our impressions were most favorable, not only as regards the institution, but the kind and hospitable gentleman who conducts it. We have seldom been more thoroughly impressed with the fitness of any one for the post he occupies.

This was our last asylum visit, and the next day we were on the Inman steamer, in the harbor of Queens-town, about to sail for home.

In visiting the hospitals for the insane, one of the principal objects of the writer, and the one in which by far the deepest interest was taken, was to examine the practical working of the so called non-restraint system, so ably advocated some years since by the late humane and distinguished Dr. Conolly, as to impress itself deeply, not only on the minds of his countrymen, but to influence the minds of many foreigners acquainted with his admirably written book.

For more than a century in this country, from the days of Pinel in France, Jacobi in Germany, and Tuke in England, the old dogmatism of mechanical restraint was questioned, and a process of gradual modification

had arisen under the progress of medical science as it was brought to bear on the treatment of the insane, substituting its humane principles for those superstitious dogmas.

The true question for medical men of the present day who are interested in the treatment of the insane is, what measure of mechanical restraint, if any, is demanded by the necessities of the disease; and to this point it has been the earnest desire of the writer to direct especial attention.

In cases of fracture of the femur, the surgeon insists on absolute rest in the horizontal position, that union without permanent deformity may be accomplished. If the patient is in his right mind, he seconds the efforts of the surgeon, and they are usually successful; but if he becomes delirious, as is sometimes the case, and, under delusion, seeks by all the means his stimulated ingenuity can devise to thwart the well meant efforts of the surgeon, the necessity for the rest continues in spite of the delusion; and whether the will of the surgeon shall be maintained, enforced if necessary, by mechanical means, or the patient be allowed to thwart everything intended for his good, we think can hardly admit of a question.

Again, a suicidal woman, as we have known, on retiring for the night, assumes an unwonted cheerfulness, kisses her attendant with the assurance that she expects to *sleep sounder* than usual, and the moment the faithful girl has left her, opens a vein in both arms with a piece of broken glass she has concealed for the purpose, and bleeds so profusely that, on entering a few moments afterwards, the attendant is horror-stricken to find the patient gasping, apparently in the agonies of dissolution, the bed under the outer covering crimsoned with her life blood, and a small pool on the floor underneath the saturated mattress.



The attending physician finds here that something more than the horizontal position must be assumed and maintained, if the brain is to be nourished and life preserved, (as it was fortunately in this case.) The head must be lowered, the body elevated, and this position maintained in spite of all efforts of the patient to rise; for the fraction of a moment in the upright position might and probably would induce mortal syncope.

We do not bring forward this case as one to which mechanical restraint was applicable by any means, but as one in the treatment of which a constant relay of faithful attendants was necessary and resorted to till all danger was passed.

However, we have other cases in our mind, and which were under our care at the same time, where for weeks the horizontal position was necessary, if not for the life of the patient, at least for the ultimate integrity of the brain structure, upon which depended the healthy intellectual activity of a life-time.

Take an actual case, selected from many, in illustration of this:

A delicate woman is confined of her first child. She has been rendered nearly exsanguine by *post partum* hæmorrhage, and acute mania is the result; a condition which is doubtless dependent in a great degree, if not entirely, on an anæmic condition of the brain. She is restless, noisy, sleepless, and in constant and exhaustive motion in the upright position, wandering from place to place, denuding herself, refusing food perhaps, and destroying whatever she can lay her hands upon.

Now, not only theory but experience teaches, that rest in the horizontal position must be secured from the outset, in order to give the patient the best possible chance for physical and mental restoration. That this can be better secured for any length of time by a relay

of the kindest and most judicious attendants, than by means of the covered bed or crib, will not be admitted by any one whose experience of the best means known in such cases has been sufficiently extensive to entitle his opinion to any special consideration.

Moreover, the presence of attendants constantly thwarting the insane impulse to move about and destroy, is more exciting and irritating than the means referred to, and this has been admitted to us by many intelligent patients after recovery. To seclude such a case in a padded room, where she would no doubt either maintain the upright position constantly till she sank from exhaustion, or denude herself, and, if she reclined at all, do so on the cold oilcloth covering of the room, would certainly not be the most humane manner of disposing of it, though we have heard of this having been done, with pneumonia and death as the natural result.

To attempt to quiet such a patient by depressing remedies is still more objectionable, if possible. The heroic doses of digitalis, antim. tart., etc., are certainly not admissible. The "soaking," as we heard it designated in England, in the "refractory bath," as it is called, would not, we think, answer in such a case.

As the "refractory bath" is we believe unknown in this country, we will try in this place to give some idea of what it is. It consists of an ordinary bath tub, covered with a board in which there is a round opening just large enough to grasp the neck of the patient securely, leaving the head to be showered perhaps with cold water above, while the body is in the bath below; reminding one of the stocks anciently in use in England for offenders, with this important difference, that whereas only the feet of the criminal were "in chancery," the head of the "refractory" insane man was in



this position, thus confining him as effectually as though it was in the ancient pillory. We saw in England the head of one unfortunate in this modern one, and were told he had been treated thus during several hours a day for a week at a time. We asked the young physician who conducted us, if this part of the non-restraint system was looked upon as medical and curative, or moral and disciplinary. Both, was the prompt reply. Do you blister, we continued, in certain cases? Certainly, said he. And do you regard the blister as a medical or moral means? we continued. He smiled, and said that the blister was also regarded as having a two-fold efficacy in certain cases.

Now, we object to such means, as being neither medical or moral; and question the consistency of those who seek to disparage a camisole or muff put on a violent patient, or one who persistently denudes himself, because public sentiment is opposed to it, while he takes his own patient to this "refractory bath," and puts his head through a hole in its cover just large enough to encircle his neck, whether he calls the operation a medical or moral means—restraint or non-restraint.

We were pained to see the false position in which some of the medical men in charge of asylums in England—men whose names are not unknown on two continents; men against whom a shadow of suspicion of unkindness or inhumanity could not for a moment rest; men whose kindness to us personally we can never forget, were placed by the restrictions thrown about them by public sentiment, and by the watchfulness of commissioners in regard to mechanical restraint, and the expedients they were forced to resort to in the management of their most trying cases, without it. And while we feel called upon to enter our protest in this place against the refractory baths, blisterings, and druggings, as not only

unprofessional but cruel and dangerous, we must say the fault does not rest with the medical men, but in a maudlin public sentiment with regard to mechanical restraint, and in the commissioners above them, on whose report their own character and position depend. Some of the superintendents have spoken out boldly on this subject, and we are glad to find that they are sustained by the medical press.

The following remarks have been called forth by the report of Dr. Yellowlees, Superintendent of the Glamorgan County Lunatic Asylum:

Without doubt *non-restraint* is the keystone of the fabric constituted by our British system of treating the insane—the shibboleth by which a man is tested, and his views pronounced sound or unsound—the alpha and the omega of the doctrines taught by writers of the English school. To such a length is this carried, that a servant who looks after an insane individual must no longer be called a *keeper*; he is an attendant, and it is almost a crime to call him by the former name in a modern asylum. In this dread even of words there would be something very ridiculous were there not something also that is of moment as concerning the welfare of the unfortunates detained in these institutions. We are thoroughly convinced of the soundness of the non-restraint doctrines, if they are not carried too far, which we are heterodox enough to think possible; but there is something absurd in allowing an outrageous lunatic to smash all the windows in a ward rather than interfere with his personal liberty, and there are other cases which, if not equally telling, are at least equally important from a medical point of view. Just as in ordinary practice we now and again allow our dread of bleeding and our system of stimulation to carry us too far, so in lunacy practice there are cases where a little personal restraint would be the best plan of dealing with an excited patient. \* \*

\* \* \* \* The cases which are probably most difficult to manage are those of epileptic maniacs and of general paralytics, when excited; the former are probably the more dangerous, the latter the more destructive. Now, under ordinary circumstances, the mode adopted for keeping these quiet is by giving them sedatives, as chloroform, morphia, or opium, with or without tartar emetic. Sometimes, indeed, a bottle containing a mixture of these is kept in the wards, and, it would appear, administered according to the



discretion of the attendant. In other cases, again, digitalis is administered in large and repeated doses, and this is perhaps the favorite remedy, but some superintendents rather rely on packing in the wet sheet, or keeping the patient for a length of time in a warm bath, as a means of calming their excitement. Still there are cases where all of these remedies fail, and the question comes to be what to do next. Dr. Sheppard, of Colney Hatch, advises the detention of ungovernably destructive patients in warm and padded cells, being themselves in a state of nudity. This is neither more nor less than a departure from the grand principle of modern treatment; non-restraint coupled with intelligent supervision. Others seem to have no such remedy, but leave the excitement to exhaust itself as well as the patient.

Again, to restrain some epileptic maniacs, particularly before an acute attack of their malady, from injuring themselves or others, great force may be necessary. Attendants' tempers are apt to wear out like those of other people, and not infrequently greater violence is employed than is actually necessary. Shaking the head by its hair until the owner is quiet is not a particularly pleasing process, but it is said to be very efficacious; and garrotting is well known not to give rise to lively sensations of pleasure, yet it has been known to be resorted to when a patient is particularly unruly. That attendants do exercise unnecessary violence in some cases cannot, we think, be denied, although such cases are usually hushed up as far as the public is concerned, just as are other matters which would not be agreeable to people outside the walls of the asylum. It is the old question, *Quis custodiet ipsos custodes?* We must therefore decide whether the modes adopted for restraining such patients are really the best; whether the plan of keeping patients under the deadening influence of sedatives, of making his body black and blue with the finger prints of attendants, of restraining him by the depressing wet sheet, or in the still more weakening warm bath, are the means most consonant with modern medical views. We are no candidates for the reintroduction of chains and strait-waistcoats, but if it becomes necessary to keep a patient quiet by force, it is better that this force should be equally diffused over all his body than limited to one particular spot—by a sheet rather than by the hands of attendants. The essential feature of the modern system is intelligent supervision—a feature not at all inconsistent with a certain amount of judicious restraint—although non-restraint has, we think, been erroneously elevated to a first place. We entirely agree with Dr. Yellowlees, when he says that “non-restraint is a good thing *only when and just because* it is the best thing for the

patient;" when it ceases to be so, non-restraint becomes undoubtedly an evil. We repeat we have no love for the system of restraint, but it seems to us that we have been falling under the denomination of a name, that of restraint having become a perfect bugbear. One superintendent has had the courage to speak out. We know that there are others of his opinion, but, in reality, the commissioners have the matter in their own hands. Undoubtedly the present system has been dictated by regard for the comfort of the insane—a regard ever paramount with those in charge of them. Possibly, however, the suggestions we have made may not be without their use in eliciting opinions and directing attention to a matter of extreme importance.—*Medical Times and Gazette*, (London) September, 1868.

We were shown one patient who had been secluded in a padded room for more than a year, because he persistently denuded himself. During this time he had suffered a fracture, which under the non-restraint system pursued, had been allowed to heal as best it might without reference to deformity. When the door of his room was opened a strong muscular man was seen crouching on the remains of a mattress and blankets in one corner, in a state of complete nudity. We remember seeing a parallel case in one of the institutions in our own country, where a powerful, muscular lunatic had, as he said, "registered an oath" that he would never wear an article of clothing on his person while detained as a madman. He had kept his oath faithfully for three years, by the help of an insane will, altogether too strong for the sane will and judgment of those who had the care of him, and who were faithfully endeavoring to carry out what was called "the humane system of non-restraint, as practiced in England." When we entered the ward this man was mopping the floor. He stopped, leaned his arm on the handle of his mop, crossed one leg over the other, and took a survey of us, and we of him, for his splendid muscular developments, long hair and beard, which he refused to have cut, reminded us of the statue of Hercules



leaning on his club. We approached and inquired why he insisted on going naked like a savage, in a civilized country. He repeated the substance of his oath, which, like Shylock, he had registered in heaven, and which feeble administration, backed by the popularity of the non-restraint system, had allowed him to keep for three years, and for anything we know to the contrary, up to this time, for he was a dangerous man to be at large. Was not this humanity "run to seed?"

A case in which mechanical restraint must be employed to prevent complete nudity is now under our observation. A strong maniacal man obstinately refuses to wear any clothing, and if allowed strips his person at once of everything put on him. For this purpose he makes use of hands, feet, and teeth. In passing through the ward a short time since, he appealed to us to have his camisole removed on account of a boil on his arm. When the arm was examined and the boil dressed, we told the attendant to leave off all restraint, assuring the patient that it should not be employed again while he wore his clothing. We went into a side room to see a sick patient, and when we returned to the hall, found him walking up and down in a state of complete nudity, his torn garments lying by the chair on which we had left him sitting not five minutes before.

As the institution at Utica is one that receives a large proportion of cases of acute mania, there is consequently at all times here a large number inclined to destroy clothing and denude themselves. This propensity is, of all others, the most difficult to meet without mechanical means. Suicidal and homicidal tendencies can be guarded against and prevented, in most cases; but such obstinate destructiveness and persistent determination to denude the person as met with here, can only be obviated by seclusion or mechanical restraint, and in a large majority of cases we decidedly prefer the latter.

Of the 297 women patients now in the Utica Asylum, there are at this time six that require restraint, much of the time because of this tendency to be nude. One of these, to our certain knowledge, under the non-restraint system, would have been naked for two years; and we should like any one who doubts this to make trial of her care.

As the subject of mechanical restraint of the insane is one of much interest, not only to the friends of patients but the public at large, we will in conclusion speak of it as it has been used in the institution at Utica, for years; the means employed and the cases to which it is applied; and to this end we can do no better than quote from the Annual Report of Dr. Gray, the superintendent, made in '1864. The bed strap referred to in the report is not now in use, and we omit the reference to it:

“Restraint in an asylum implies, first, the confinement of one or both hands, so as to prevent their use by the patients to inflict injuries or abuses on themselves or others, or excessive injury, or destruction of clothing or furniture, or the denuding or exposure of the person; second, confinement, in a sitting posture, in an ordinary chair or settee, or in bed, in a horizontal position. The first mode of confinement is usually effected by the following means:

“*First.* By a camisole, or waist, laced up the back, with endless sleeves, attached in front, or not, as the case may require, to a loop on the waist. This article is made of strong washable material. The hands are entirely free within the sleeve, and the healthful action of the muscles of the arms, shoulders, chest, &c., is not interfered with.

“*Secondly.* By the use of simple padded leather wristlets, moving on a belt about the waist.

“*Thirdly.* By a leather muff and wristlet, which is the addition to the second mode of a leather shield covering the hands. This method is resorted to when the others fail to restrain.

“These three modes of restraint are used, *first*, in case of suicidal disposition, when it is so determined and persistent that watchfulness will not insure the necessary safety; *second*, when there is determined and persistent disposition to self-maiming, or exposure,



or denuding of the person, or self-abuse; *third*, when there is great destructiveness or violence towards others. Confinement to a seat is effected by passing a leather strap about the waist, and attaching it behind to the chair or settee. This is resorted to in controlling, for given periods, cases of great restlessness, or high excitement, with the view of husbanding the general strength and promoting calmness. Many cases, especially in the acute stages of mania, if left to themselves, or given the freedom of the ward, would soon exhaust their vital powers by excessive muscular action. Excitable, noisy persons, thus restrained, during paroxysms, are more tranquil, and are able to remain in association with others in the wards, or sitting rooms, instead of being secluded, and their personal comfort is really promoted by this partial restraint. We are of the opinion also, that the moral as well as the medical effect of this treatment is much better than that of seclusion.

“Confinement in the horizontal position is effected by the covered bed. This bed is constructed like an ordinary child’s crib, with the addition of a slatted cover. This arrangement does not interfere with the movements of the patient in rolling from one side of the bed to the other, or moving the limbs in any way; it merely prevents him from sitting up or getting out of bed. As the sides and top are open, the air circulates as freely about the body of the patient as in an ordinary bed. Restraint in a horizontal posture is used in cases of exhaustion, where the physical health of the patient demands that he be kept in bed: the medical thought involved is readily appreciated. Sick people ordinarily lie in bed under the advice and direction of the physician, but the same class, when insane, will not always do so, and these arrangements are to effect this end.

“Great attention has been paid to the subject of restraint, by medical men for years, and constant improvements have been made under the light of experience, tending to the simplification of the modes and the removal of unpleasant features—seclusion is rarely necessary—it is resorted to in sudden outbreaks of violence, especially with epileptics under maniacal paroxysms. The classes formerly secluded, are now with us confined to a seat in the ward, for a time, as heretofore described; and this restraint in the presence of others, as we have previously intimated, is more conducive to personal comfort and tranquillity than seclusion. Though seclusion is rarely resorted to, we should be unwilling to disuse or disallow this, or any other means contributing to the amelioration of suffering, or the cure of disease.”

## CH. BOUCHARD ON SECONDARY DEGENERATIONS OF THE SPINAL CORD.

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### INTRODUCTION TO BOUCHARD.

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Comparatively recent observations in nervous diseases have proved that when a nerve fibre is injured in any part of its course, it undergoes certain degenerative changes in that portion which is cut off from its connection with the nervous centre, from which it derives its supply of nerve force. In other words the alteration commences at the seat of the lesion and proceeds in the direction of the transmission of nervous force. If, therefore, we have any disease interesting the brain or upper part of the spinal axis, by which certain fasciculi of nerve tubes are destroyed, we can trace these degenerated tubes throughout their course along the spinal cord, observing with accuracy whether they terminate in the gray matter of the cord or pass off in the anterior roots of the rachidian nerves. In the same manner lesions of the posterior roots, or lower segments of the cord result in such alterations of the posterior columns as to admit of our tracing the injured tubes in a centripetal direction.

It being well proved that the ultimate nerve fibres do not anastomose with one another, but continue their course distinct and separate from their peripheral to their central extremity, we have a reliable method of studying each individual nerve throughout its passage along the cord, as well as of investigating its relations to the central ganglia, by carefully observing the alterations which are secondary to primary lesions of the nerve tissue.

This power of following a nerve tube along its course



is of inestimable value in investigating into the pathology and physiology of the nervous system; and accurate observations of cases will doubtless result in a great advance in our knowledge of this complex and difficult subject.

I have translated the following work of Bouchard upon secondary degenerations of the cord, in hope that it will lead those who have opportunities of meeting with such cases to keep careful records of the symptoms and post mortem appearances, which, when tabulated and compared with one another will doubtless serve to elucidate some of the difficult problems which are so continually presented to us by the nervous system.

ALBANY, Nov. 22d, 1868.

E. R. HUN.

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Besides the lesions proper of the spinal cord which result from a primitive alteration of its tissue, there are others which occupy, as a rule, the whole length of the rachidian axis, which develop very rapidly and almost at the same time throughout this whole extent, and follow either primitive lesions limited to one point of the cord itself, or lesions of the brain, or lastly alterations of the posterior roots.

These secondary degenerations of the cord take no part in the proceedings of the primary lesion. They have their own physiology and pathological anatomy, their special course, the same in every case, whatever be the nature of the diseases of which they are the consequence. They result from that property common to all nerve tubes which, injured at one point of their course, become altered throughout all that portion which has thus lost its relations to the parts from which they take their origin, and which exert a preponderant influence on their nutrition.

Thus interpreted, these alterations of the cord well deserve the name of *secondary degenerations*, and differ essentially from other affections also described as secondary, but which are only the radiations to the cord of a process developed in a neighboring part, such as myelitis or sclerosis consecutive to spinal meningitis; such also as those diffused scleroses of the cord so frequent in general paralysis,\* and of which M. Magnan has demonstrated the relations with the cerebral lesions peculiar to that disease.

I should say, at the commencement, that these secondary degenerations of the cord very often escape even a careful examination. Notwithstanding when the attention is drawn to this point we not infrequently discover them with the naked eye. In all cases, certain anatomical processes which I shall explain hereafter, always enable us to recognize them easily. This research, I think, should not be any longer neglected, for the secondary degenerations have their own symptoms independent of those of the primary disease; they may persist after the disappearance of that disease, and then betray themselves by permanent functional disorders which, if one was not forewarned, might be attributed to another cause; lastly, they tend to elucidate certain points still very obscure in the physiology, and above all, in the normal anatomy of the spinal cord.

Was it not for the difficulty of proving them in the absence of the means which we employ at this day, one would have the right to feel astonished that the secondary degenerations of the spinal cord had not struck the observers who have studied the lesions of this nervous centre before the present time. Their discovery is in fact of recent date. In going over the ancient works

\* *Etudes cliniques et anatomo-pathologiques sur la paralysie générale*; prix de l'Académie de Médecine, 1865.



on this subject, I have found but one fact which is connected with it: it is given in the Sepulcretum.\* It is in reference to an atrophy of the left half of the cord in a case of a considerable lesion of the right hemisphere. But the author of this observation, to which I shall refer again, Wepfer, knew not how to interpret it. Not only he did not know that a hemiplegia of the left side can be due to a lesion of the right hemisphere, but still more, did not attribute any importance to the lesion of the cord because the arm alone was paralyzed.† Morgagni,‡ who has commented at length upon the observation of Wepfer from a point of view different from that which we now occupy, appears to have noticed the relation which exists between the lesion of the brain and that of the cord. He says, indeed, in the few lines which he devoted to this last alteration, that the lesions of the right hemisphere, “*diminuèrent aussi pendant longtemps l’afflux des esprits dans la partie gauche de la moelle épinière.*”||

It is in fact to Mr. Cruveilhier that the honor of having discovered the descending secondary alterations consecutive to cerebral lesions, is due. He has followed them in the peduncles, in the pons and in the bulb, but he has not recognized them in the cord. I wish to cite this passage according to the text.§ “The attention of observers cannot be drawn too much to the ap-

\*Theophili Boneti Sepulcretum, lib. 1, sec. 15, obs. 4, p. 360: Lugduni, 1700.

† Ibid., Scholies de l’observation.

‡ Recherches anatomiques sur le siège et les causes des maladies, traduct. de Desormeaux et Destouet, t. 11, lettre xi., No. 10, p. 116.

|| Thus diminished for a long time the afflux of the spirits into the left half of the spinal cord.

§ Cruveilhier Anatomie pathologique, liv. xxxii., p. 15.

preciation of the influence of hemorrhage and other lesions of the brain on the condition of the cord, and reciprocally of the influence of lesions of the cord on the condition of the brain. I can give this as a positive fact that the lesions of the cord do not exert any influence upon the brain, but that the lesions of the brain have a very marked action on the cord, both with reference to its functions and its organization. Thus, often coincident with apoplectic cicatrices, a result of the almost complete destruction of the optic thalamus, I have found the anterior pyramid of the same side, and consequently of the side opposite to the hemiplegia, atrophied. This atrophy continued in the prolongation of the pyramid across the pons, and even in front of the pons in the inferior layer of the anterior peduncle. I have not followed this pyramid downward below the decussation. Finally, I have never found, even in the oldest hemiplegias, the corresponding half of the cord atrophied, or at least the difference between the right and left halves of the cord has not struck me, by which I do not mean to say that, a difference which escaped me may not become appreciable to the eyes of a more attentive observer, whose ideas are directed especially to this point."

This observation has given to L. Türcke\* the results which M. Cruveilhier had foreseen. In a first memoir, presented in 1851 to the Academy of Sciences of Vienna, he showed the alterations of the cord consecutive to different cerebral lesions, and also to certain partial destructions of the tissue of the cord itself; and he drew from these facts rigorous deductions concerning the

\* Ueber secundäre Erkrankung einzelner Rückenmarksstränge und ihrer Fortsetzungen zum Gehirne, dans *Compte rendu de la section de mathématiques et sciences naturelles de l'académie des sciences de Vienne*, Mars, 1851.



structure and distribution of medullary fibres as well as some physiological consequences much more contestible. Two years later, in a new communication,\* he analysed thirteen cases of secondary degeneration in consequence of cerebral lesions, and twelve others resulting from primitive alterations of the cord. Finally, in 1855, he incidentally came upon this question in another memoir.† Notwithstanding their importance, the works of Türcke have not attracted great attention. We find them very summarily mentioned in the treatise of Rokitansky;‡ they are not even spoken of in that of M. Lebert. At the same time that Türcke published in Germany the result of his researches, analogous discoveries were made in France and in Holland.¶ MM. Charcot and Turner§ presented to the society of biology an example of decussating atrophy of the cerebrum and cerebellum, and noted also a descending atrophy which followed the cerebral peduncle, the pons, the anterior pyramid of the atrophied cerebral hemisphere and the antero-lateral column of the cord on the opposite side. Some years later M. Turner¶ reproduced this fact in his thesis, re-

\* L. Türcke, *Compt. rend. de l'Acad. des Sciences de Vienne*, t. xi., p. 93, juin, 1853.

† L. Türcke, *Beobachtungen über das Leistungsvermögen des menschlichen Rückenmarkes*. *Ibid.*, t. xvi., p. 329, Mai, 1855.

‡ *Lehrbuch de Pathologischen Anatomie*, t. 11, p. 485, 3e édit.

¶ Schroeder Van de Kolk, *Waarneming van ene atrophie van het linker halfmond der hersenen met gelijktijdige atrophie du rechterzijde van het ligehaam*. *Verh. der Eerstê kl. van het Nederl. Institut*, 1852; *Derde Reeks.*, D. V., p. 31.

§ Exemple d'atrophie cérébrale avec atrophie et déformation dans une moitié du corps (*Compt. rend. de la Société de biologie*, 1852, p. 19).

¶ De l'atrophie partielle ou unilatérale du cervelet, de la moelle allongée et de la moelle épinière consécutive aux destructions, avec atropie d'un des hémisphères du cerveau. (*Thèses de Paris*, 1856.)

porting with it two analogous ones. Similar facts had already been given by Rokitansky.

It would seem that these facts should have had a place in the discussion relative to the alterations which divided nerves may undergo. These two questions, so to speak, contemporary, and which could have thrown light upon one another, were nevertheless developed almost independently. At the same time that Türcke communicated the result of his first researches, at Vienna, Waller\* published at Bonn, at London, and at Paris, his experiments on the degeneration of divided nerves. In point of fact his observations did not bear upon the elements of the nervous centres; but the laws of the degeneration of nerve fibres such as he has formulated them seem to me rigorously applicable to our subject. It was also at this time when MM. Philippeaux and Vulpian† made known their researches on the regeneration of nerves, that the study of the secondary degenerations of the nervous centres was undertaken in France. In the case published by M. Gubler,‡ an alteration of this nature commencing at the primary lesion of the brain descended

\* We cannot say that Waller discovered an alteration of the posterior columns of the cord as a result of the lesion of the posterior root. He has certainly observed that, when these roots are divided, they degenerate between the point of section and the cord, and even that the alteration advances for a short distance into the substance of the posterior columns; but what he saw here was only an alteration of the intermedullary portion of the roots. Augustus Waller, *Nouvelle méthode anatomique pour l'investigation du système nerveux* (lettre à l'academie des sciences du 23 Novembre, 1851 :) Bonn, 1852.

† Sur la Régénération des nerf séparés des centres nerveux. (*Mémoires de la société de biologie*, 1859, p. 343.)

‡ Du Ramollissement cérébral atrophique envisagé comme lésion consécutive à d'autres affections encéphaliques (*Arch. gen. de med.*, t. 11, p. 31, Année, 1859.



across the peduncle to the pons. It was not followed further, and the condition of the cord is not noted; but already at this time an observation, cited by M. Gubler, had been presented to the society of biology by M. Charcot. In this case the descending lesion was not only manifest in the peduncle, the pons, and the anterior pyramid of the same side, but it continued in the antero-lateral column of the opposite side of the cord.

Since this time, a large number of cases have been gathered at the Hospital of the Salpêtrière by M. Charcot and by M. Vulpian, and have been, during the course of the year 1862, the object of important communications made by those physicians to the Society of Biology. In 1863, M. Cornil\* had occasion to observe with M. Charcot some similar facts. He says that in six cases of old hemiplegia from cerebral lesion, they could discover five times the descending alteration in the mass of the brain, in the peduncle in the pons, in the anterior pyramid. He adds that they find the same alteration in the cord, but he does not fix either the seat or the extent of this alteration. The same year Leyden† published a remarkable case of secondary degeneration of the cord consecutive to compression by Pott's disease, and M. Cornil communicated to the medical society of observation an analogous case found in the service of

\* A typographical error makes it appear that M. Cornil said that the secondary lesion occupied the anterior pyramid of the side opposite to that of the cerebral lesion. It is on the contrary always on the side of the diseased hemisphere that we find the pyramid altered.

Cornil. Note sur les lésions des nerfs et des muscles liées à la contracture tardive et permanente des membres dans les hémiplegies. (Société de Biologie, 1863.)

† Die graue degeneration der hinteren Rückenmarcksstraenge: Berlin, 1863.

M. le Dr. Charcot. In 1864, M. Laucereaux\* compared the atrophy of the optic nerves in cerebral amaurosis to these descending degenerations of the cord, of which he gave some new observations. I had also at the same time an opportunity to meet frequently with these secondary lesions as a consequence of diseases of the brain or of primitive lesions of the cord, in the service of M. Charcot. I communicated several cases of them to the Anatomical Society and to the Society of Biology. Some of these observations have been published.† I gathered, in 1865, some new cases at the St. Eugénie Hospital in the service of M. Triboulet; and two cases to which I shall have to return, have been presented at the Society of Biologie, one by M. Cornil, the other by M. Charcot.

#### PATHOLOGICAL ANATOMY.

The secondary alterations of the spinal cord are never observed except in the fasciculi of the white substance. The gray substance has always been found intact. We could, indeed, foresee that this degeneration would only affect the conducting elements, and that it could not attack the elements which possess in a higher degree a peculiar activity, nutritive and functional, and which we

\* De l'Amaurose liée à la dégénérescence des nerfs optiques dans les cas d'altération des hémisphères cérébraux (Archives gen. de Méd., t. 1, p. 47: 1864.)

† Bouchard, Rapport sur une observation de compression de la moelle. (Bulletins de la société anatomiques, juillet, 1864.)

Aphasie sans lésion de la troisième circonvolution frontale gauche. (Compte rendu de la société de biologie, 1864, p. 111.)

De l'Ataxie locomotrice progressive au point de vue de ses lésions anatomiques et de ses rapports avec diverses maladies peu connues de la moelle épinière. (Journal de Médecine de Lyon, Novembre, 1864.)

Trousseau, Clinique Médicale de l'Hôtel Dieu de Paris, t. 11, p. 604: 1865, observation de Egris Valentine.



rightly consider as nervous centres. These degenerations have been observed in the white substance of the anterior part of the cord and in that of the posterior part. When a white fibre is wounded by whatever cause, in one part of its course, either in the cord itself or in its encephalic prolongations, the secondary alteration supervenes as a rule, only on one side of the primitive lesion, either above, or below, but it extends throughout the whole length of this portion to its central or peripheral extremity. Hence, the names of ascending degeneration and descending degeneration. Only the injured fibres are altered, and they are altered in their whole extent from the point of the lesion. Now as the white fasciculi of the cord receive on their way new fibres which cannot participate in the degeneration, it results that the secondary alteration will undergo a relative diminution according as we go further from the point primitively affected. As, on the other hand, the fibres which exist at this point, and degenerate, have not all the same destination, but are lost from time to time in the gray substance, it also results that, in following the degeneration from its origin to its termination, we will find that it undergoes a diminution not only relative, but even absolute. Let us see now in what this degeneration consists, and by what characters we can recognize it.

Here is the place to recall briefly the effects produced by the section of nerves. These experimental studies have given results which offer the greatest analogy with those which we are about to study. We know since the works of Waller\* and of MM. Philippeaux and Vulpian† that the nerves, the connexions of which with the nervous centres are destroyed, present at the end of

\* Loc. cit.

† Loc. cit.

twenty-four hours, a diminution of their peculiar excitability. This enfeeblement extends from the centre to the periphery, gradually augments, and finally all activity entirely disappears by the end of the fourth day. At this period the elements of the nerves which had not yet offered any appreciable alteration of their structure, commence to present marked modifications which bear witness to a serious disturbance produced in their nutrition. After the fifth day the medullary substance of the tubes is, so to speak, coagulated, and at the same time fissures form in its thickness and divide it into unequal and irregular blocks; this is what we call the segmentation of the nerve tubes. Very soon afterwards, these fragments of medullary substance are seen to be studded with fatty granulations, which go on multiplying, and which take the place of the former throughout the whole length of the tube. At the end of a certain time these fatty granulations are reabsorbed, and we see only the neurilema withered and shrivelled upon itself. What becomes of the axis-cylinder while this retrograde work is going on? This is a point which has not yet been completely cleared up. Let us add that the tubes thus destroyed can become regenerated; but they do not reform *in situ* but are only the expansion, the budding forth of tubes which remain healthy above the point cut.\* It is at the end of fifteen days, at the soonest, that we can find the first indications of excitability in the regenerated nerve; at first in the parts nearest to the section, then at points successively more and more distant.

\* This opinion, which appears generally admitted by physiologists, is not absolute. M. Vulpian has shown, indeed, that in certain animals, by choosing young subjects, we can obtain, without any influence of the centres regenerations of the hypoglossal and of the lingual nerve.



Similar researches would be applicable to secondary degenerations of the nervous centres; but experiments have not as yet, so far as I know, been employed in this special study. Besides, the pathological facts do not allow us to follow so easily the evolution of this morbid process. The cerebral or spinal disease kills the patient before the alteration of the involved tubes can become evident, or on the other hand death comes when the degeneration is complete, or when the fatty granulations have already been reabsorbed. I have nevertheless, twice made observations during the passage from the state of segmentation to the granular condition. I ought to mention here that, if we can come to conclusions from the analogy of what is known of the nerves to that which ought to take place in the spinal fasciculi, it is best to do so with an extreme reserve, for the facts known up to this day, and those which I have observed, indicate that the same alterations present in these two classes of organs marked differences, above all as regards their course and terminations. The white tissue of the cord seems to be much more delicate than that of the nerves; and a compression which, applied to a nerve, would pass unperceived and would be, at any rate, incapable of altering its structure, suffices to produce in the spinal cord a secondary degeneration. Besides the work of destruction of the tubes requires in the cord much more time than in the nerves; the granular condition lasts a much longer time; and finally if the regeneration of medullary fasciculi is possible, as I think it is, it advances much more slowly than that of the nerves.

L. Türcke, who seems to have been the first to submit secondary degenerations to a microscopic examination, has not given the details relative to the condition of the nerve tubes. He only points out the presence of a

great number of granular bodies and free molecular granulations in the diseased tissue which are thus transformed *in situ*. We cannot adopt this manner of seeing it, and we think that we have, at least at the commencement, not a disease of tissue but an alteration of element. In two cases of recent compression of the cord (one of a duration of fifteen days and the other of six weeks) I was able to see, by examining the degenerated fasciculi in a fresh condition, that a certain number of tubes were clearly in a state of segmentation; fissure, more or less deep, divided the neurilema transversely. At certain points of the preparation, these fragments were infiltrated with fatty granulations; others had been already partly destroyed by the retrograde work which gave the tubes a separated and notched appearance. Independently of the fatty granulations contained in the altered tubes, a large number were free among the elements, and at certain points they were agglomerated in a mass, in such a manner as to form what are known under the name of the granular corpuscles of Gluge.

In these cases, a fine section, made perpendicular to the axis after a maceration of some hours in alcohol, showed in the diseased fasciculi a large number of granular bodies scattered about under the form of black spots. All about these collections, the tissue had a healthy appearance, but the vessels presented on their surface lines of fatty molecular granulations or even a complete envelope which rendered them black and opaque under the microscope. In more advanced cases, where there were descending alterations, as a result of cerebral softening dating from six months to one or two years, I found, by lacerating the tissue of the diseased fasciculi while in a fresh condition, that the nerve tubes were healthy or slightly varicose, and that they were separated from one another by a small quantity of amorphous material,



which was usually soft, transparent and, as it were, gelatinous, enclosing numerous fatty granulations, granular corpuscles in greater or less number, and also nuclei analogous to those which exist normally in the gray substance of the nervous centres, and which M. Robin has described under the name of myélocytes. These nuclei were never very numerous; but they were the more abundant in proportion as the alteration was of older date. The appearance of the sections made after some hours' maceration in alcohol, did not materially differ from that which I have described for the first cases. We saw in the midst of a tissue which appeared almost healthy, granular bodies in variable numbers, and the vessels had a more or less atheromatous appearance. But the sections obtained from the same cord, after a maceration of some weeks in a weak solution of chromic acid, showed a notable difference between the healthy and diseased parts. Examined under a low power, the preparation showed in the altered portions bright striæ or transparent points disseminated between the tubes which, by their opacity, contrasted with the spaces occupied by the amorphous substance described above, and which alone allowed the light to pass easily. In the normal parts, the tubes pressed against one another, everywhere resisted the passage of light, and gave a uniform and sombre shade to the section.

Finally, in a case of compression of the cord, dating back for thirteen years, an examination made in the fresh state showed in the diseased fasciculi a soft, transparent and abundant amorphous matter, studded with myélocytes; and in the midst of it a few tubes, non-granular, but varicose. The fatty molecules were few in number, the granular corpuscles were found only here and there, and the vessels were almost normal. The fine sections made after maceration in chromic acid, and examined

with a low power, at once made evident the diseased parts, which contrasted in the clearest manner, by their transparency, with the healthy parts, which preserved their uniform dark tint. Besides, in the altered parts we saw scattered about in the transparent amorphous substance black dots representing the sections of tubes which had not been destroyed. I should add that the connective tissue which had thus taken the place of the nerve tubes had produced, owing to the contractility with which it is endowed, a particular deformity of the cord consisting in a longitudinal depression of the surface at the points nearest to the altered fasciculus.

By comparing these different alterations, and by considering their chronological succession, we can, I think, determine the morbid process in secondary degenerations.

Three principal facts arise from the preceding statement: 1st, the atheromatous appearance of the capillaries and the formation of granular corpuscles in the tissue which has degenerated; 2nd, the alteration, and afterwards the disappearance, of a greater or less number of the nerve tubes; 3rd, the formation of a connective tissue which takes the place of the tubes. Only two interpretations seem to me possible. We may suppose that an irritation produced at the point of the primitive lesion is propagated with rapidity through the whole length of the injured fasciculus, but in one direction only, viz.: that of its physiological conductibility; that there hence results a slow inflammation, exactly limited to the parts whose functional activity is no longer called in use, and which cannot spread to contiguous parts; and that this inflammation gives rise to a morbid production of connective tissue which unites the nerve tubes, vitiates their nutrition, and at last causes their disappearance.

Under this hypothesis we might, with M. Robin,



consider the corpuscles of Gluge as leucocytes which have undergone the granulo-fatty alteration.\* Under another hypothesis which I hope to make more worthy of acceptance, the tubes injured in one point of their course are primarily altered in all that portion which has lost its connection with their centre of origin, without there being any trouble of nutrition in the tissues which they pass through. Every thing then goes on as it does in the peripheral end of a divided nerve. The substance of the tubes is changed into fatty granules which are diffused through the tissue, some isolated, others accumulated in masses, (granular corpuscles,†) or in lines along the vessels, (atheromatous appearance of the capillaries.) The nutritive activity of the tissue is stimulated to action by this foreign substance which infiltrates it, absorption commences and causes it to disappear little by little, while at the same time proliferation of the connective tissue fills up the vacancies.

The first hypothesis seems to me liable to very grave objections. Independently of the fact that there is something strange in imagining an inflammation which should develop itself on one side only of the primary lesion, and always on the same side, which should spread rapidly through the whole length of a spinal fasciculus without manifesting itself by any symptom, and which, in this sudden extension, should limit itself to a very narrow band without encroaching upon contiguous parts, which notwithstanding have intimate nutritive relations with the diseased parts, by their nervous and vascular connection, we should suppose that the microscope should

\* It is seldom, except in inflammatory softening, that we can attribute to leucocytes the origin of granular corpuscles.

† It may be that certain granular corpuscles are the result of the granulo-fatty transformation of drops of the white substance of Schwann.

show proliferation of the connective tissue before showing the alteration of the tubes. Now this is contrary to what we observe. The first lesions which we see are the segmentation and the retrograde alteration of the tubes; the morbid production of connective tissue is secondary, and occurs much later.

On the other hand, if the increase of connective tissue was the initial phenomenon causing as its consequence the disappearance of the tubes, secondary degeneration would be nothing more than a sclerosis, and should have the character of sclerosis. We know that, in this latter affection, the proliferation of connective tissue strangles the nervous elements, vitiates their nutrition, and causes their atrophy and disappearance; but this disappearance has an entirely special character: the white substance of Schwann diminishes in thickness, generally in an unequal manner, so as to give to the tubes a varicose appearance; this substance may be entirely absorbed in some parts where the axis-cylinder remains bare; we can then trace it to a point where it disappears in a sheath of medullary substance still intact; then it reappears further on; finally the absorption of the medullary matter of the tubes becomes complete, and we can see the axis-cylinders remaining in the midst of the sclerosed mass, parallel to one another, and similar in appearance to the fibres of subcutaneous cellular tissue, from which they are easily distinguished by the action of certain re-agents. Then, there is direct atrophy of the medullary substance of the tubes; in secondary degenerations there is no atrophy of this substance; it disappears by the necessary intermediation of a process entirely different from atrophy, by a retrograde transformation, and, before being absorbed, it loses its usual appearance, its cohesion, and even its chemical constitution. I may add, that I have never been able to find



the denuded axis-cylinders in the case of secondary degeneration, and no observer has remarked their persistence, which we often find in cases of sclerosis. Finally, a new differential character is, that the sclerosed tissue is almost always studded with a considerable number of amylaceous bodies; these bodies are totally absent, or only exist in small quantities in parts attacked by secondary degeneration.

It is not that I do not comprehend the analogy which exists between the proliferation of connective tissue which is observed at an advanced period of secondary degenerations, and the new morbid product which primitively constitutes sclerosis; but we will see what essentially different parts this hypergenesis takes, in the two cases, with regard to the disappearance of the nerve tubes.

Here is the place to make an important remark: in a nerve attacked by secondary degeneration, all the tubes are not altered; some preserve their structure and their functions almost intact; these are those which, already existing at the part primarily injured, have been respected by the injury, or those which have emerged from the gray substance beyond the primary seat of alteration. These tubes, after the disappearance of those which normally surround them, become isolated in the midst of the connective tissue which is undergoing proliferation, and which by its contact cannot fail to modify their vitality. In fact they become varicose, just as is seen in sclerosis. It is on account of these considerations that I have, in a former work,\* described secondary degenerations under the name of secondary

\* *De l'Alaxie locomotrice progressive au point de vue de ses lesions anatomiques et de ses rapports avec diverses maladies peu connues de la moelle épinière.* (Journal de Medicine de Lyon, Novembre, 1864.)

sclerosis or false sclerosis, in contradistinction to primitive sclerosis or true sclerosis.

To finish with the processes of secondary degenerations, I ought yet to say a few words about the vascular alterations observed in the diseased tissue. I have already pointed out the atheromatous appearance of the capillaries; it is observed almost constantly, but in very variable degrees, and this fact, added to other characters indicated further on, seem to justify the comparison which M. Gubler\* has made between secondary degeneration and chronic cerebral softening. The yellow, depressed patches which are so often met with on the surface of the brains of old persons, present in a peculiar degree all the histological alterations which we have described, but in a much more marked form. It is not probable that the morbid process, although producing similar results, is the same in the two cases. Although pathological anatomy and experiment have thrown light upon certain points of the pathogeny of cerebral softening, the mode of formation of these yellow patches is far from being understood. As for the atheromatous condition of the capillaries which is found so constantly and to so great an extent in this affection, we know not whether it is the product or the cause of the disease. In secondary degeneration, this condition of the vessels seems to me to be consecutive to the alteration of the surrounding tissues.

And first, it is not the result of senile degeneration, for I have succeeded in finding it in a very advanced degree in very young children, as a result of compression of the cord by Pott's disease.† The fatty condition

\* Loc. cit. (*Archives gén. de Med.*, t. 11, p. 31: 1859.)

† I should protect myself against the charge which might be brought against me of having described, as atheroma of the capillaries in children, a condition of the vessels of the brain—usual at



of the capillaries is only the consequence and the index of an alteration of nutrition of that portion of the tissue which has lost its physiological activity; therefore it is only the indirect consequence. I could with difficulty comprehend that a capillary vessel should become fatty only because the neighboring nerve tubes do not perform their functions; but if the neighboring nerve tubes are greatly modified in their structure, it may be that the abnormal materials of disassimilation which they give up to the capillaries, may produce a secondary trouble in the vitality and structure of the latter. Besides, the alteration with which we are occupied, does not seem to me to have advanced to this degree. If I am not deceived, there is only an atheromatous appearance, and not a fatty transformation of their substance. During the early period of secondary degeneration in young subjects, the abundant fatty granulations appear to me to envelope the vessels rather than infiltrate them; they seem to be external to the membrane proper of the capillary vessel, which latter does not appear to be perceptibly modified. I have even demonstrated in several cases that they were accumulated between that membrane proper and its envelope of connective tissue, in that intermediate space to which M. Robin has called attention. I do not deny that these facts should be examined into: for the interpretation which I propose is founded upon only a limited number of cases. At all events it seems to me to give a satisfactory explanation of the facts observed,

that period of life, a condition characterized by the presence along the capillaries of little refracting beads and granulations which are evidently situated in the lymphatic interspaces described by M. Robin, and which, by their disposition in lines or their accumulation at certain points, principally in the angles of bifurcation, may resemble in a superficial examination, the atheromatous alteration.

and of their evolution, since the atheromatous appearance, very marked at a certain period, seems afterwards to diminish, so that when the connective tissue is completely formed, the granular corpuscles and molecular granulations have in a great measure disappeared from the diseased part. This theory of the atheromatous alteration of the capillaries of the nervous centres could not be peculiar to secondary degenerations, for it enters into that general law expressed by Billroth, as follows:—"The fatty degeneration of the capillaries of the brain, or rather their envelopment in fat, is the consequence not the cause, of a defect of nutrition in the central nervous tissue."

One could object to the theory which I have just given of the primitive granular fatty degeneration of the nerve tubes of the cord that, in nerves where this alteration has been studied to better advantage, the observed phenomena differ materially from those which I have described above. This is because, in the nerves, each primitive fibre is contained in a solid and resisting envelope, which is wanting to the tubes in the nervous centres. In the nerves, the fatty granules resulting from the transformation of the substance of Schwann remain imprisoned in this envelope, and cannot distribute themselves in the surrounding tissue as they do in the cord. This anatomical peculiarity seems to me sufficient to explain the differences of appearance which the same alteration presents according as it is in one tissue or another.

It would still remain to study the regeneration of nerve tubes in the spinal fasciculi which recover their

\* Theodor Billroth, Ueber eine eigenthümliche gelatinöse Degeneration du Kleinhirnrinde nebst einigen Bemerkungen über die Beziehungen der Gefässerkrankungen zur kronischeu Encephalitis (Archiv-der Heilkunde Dritter Jahrgang, p. 47.)



functions after having been affected by secondary degeneration. But the materials for this study are completely wanting; and, in a general way, we may say that the regeneration of spinal fibres has never been established by any direct observation. On one occasion, MM. Charcot and Vulpian thought they perceived the traces of reproduction of the nerve tubes in a case of sclerosis of the posterior columns. This appearance has never even been mentioned among the results of secondary degenerations; and if I said above that I believed in the regeneration of the nerves of the cord after these alterations, it was because I relied upon clinical considerations which I shall treat of hereafter.

I should now point out the methods of investigation applicable to anatomical study of secondary degenerations.

Direct inspection often allows us to seize upon certain peculiarities which may put us upon the track of this alteration. Thus in descending degenerations, a result of some old brain affection, it is not uncommon to find the peduncle of the diseased side smaller than that of the other; we then remark, after having removed it envelopes, that its color is changed, it presents on its inferior aspect a line of a yellowish gray in the course of its fibres, of greater or less size, situated sometimes at its internal, sometimes at its middle and sometimes at its external part, according to the location which the primitive alteration occupies in the hemisphere. In these cases it is not uncommon for the pons to present a more or less marked flattening on the same side. The medulla oblongata, deprived of its membranes, also shows a marked difference between the two anterior pyramids. The pyramid of the diseased side is, like the peduncle, small and yellowish. This atrophy of the pyramid renders the olivary body of the same side

more protuberant, and might lead us to think there was a disease of this organ.

As a general rule, the consistency of the degenerated parts is not changed; but in one case M. Gubler noticed a softening of this tissue.

As for the cord, an external examination rarely furnishes any indications, unless it be in very extensive and very old alterations of a hemisphere, and more particularly in cases of cerebral agenesis. We then find a diminution in size of that half of the cord opposite to the diseased hemisphere. In cases of the same kind, if the atrophy of one half of the cord is not evident, we observe sometimes a slight deformity of the organ consisting in a longitudinal depression in one of its lateral parts, a little in advance of the posterior roots. This lesion, however, cannot be well traced unless the cord has been previously hardened.

Seen through its membranes, the cord does not present any modification of color at the situation of the altered fasciculi; even when the membranes are detached without affecting its tissue, its color appears to be normal. But, if we make a section of the organ in a direction perpendicular to its axis, we can often see that certain portions of the white columns have not the same appearance as the healthy parts. It is sometimes a yellowish gray tint, sometimes a semi-transparent, bluish gray tint, like that of milk diffused in water; and sometimes again it has the gelatinous grayish coloration of sclerosis. The yellowish color is principally observed in cases of degeneration with an abundance of granular bodies, that is to say in cases of not very long standing. Nevertheless, and I should insist upon this point, an examination of the diseased tissue of the cord with the naked eye is usually incapable of leading us to suspect even quite marked alterations.



After this preliminary inspection, and before submitting the cord to any preparation, it is best to examine with the microscope some portions of its tissue, removed with small curved scissors, from the parts supposed to be diseased. These fragments teased out in a drop of water, should be examined with a power of from 150 to 300 diameters. We thus recognize the condition of the tubes, the atheromatous appearance of the capillaries, the granular corpuscles, the molecular granulations and the starch bodies. We then replace the water of the first preparation by a few drops of a weak solution of carmine whose alkalinity has previously been neutralized by acetic acid. The amorphous matter interposed between the tubes then becomes plainer, nuclei appear, and the capillaries are made more visible. All these details may be made still more precise by the addition of a drop of acetic acid, after having taken the precaution to remove the excess of carmine by washing with pure water. It is often more expeditious to replace the carmine by an aqueous solution of with or without the addition of acetic acid.

After these primary investigations, the cord is placed in alcohol at 36° C., and after a few hours it will have acquired a sufficient degree of firmness to enable us to make quite thin sections perpendicularly to its surface. By treating these sections with acetic acid, compressing them slightly between two glass slides, we can ascertain, with a power of from 80 to 120 diameters, at what precise points the granular corpuscles and atheromatous vessels are situated. This preparation cannot give other indications; but we can renew the first examinations which I have mentioned above, on the portions of the cord thus treated with alcohol; the nerve tubes then have sharper outlines, and the observation is less impeded by the beads of the white substance of Schwann

which are constantly formed in preparations made with the fresh cord.

The cord is then placed in a solution of chromic acid, and, by the end of two or three weeks it will usually have acquired a sufficient degree of firmness. Then it is not very rare for the greenish yellow color of its section to present, at the points of degeneration, a lighter tint than at the healthy parts; and we can often map out exactly the space occupied by the degeneration, by pouring upon the surface of the section a few drops of a concentrated solution of carmine. By washing this surface, at the end of a minute, with a camel's hair pencil dipped in water, the diseased parts only remain colored with a lighter or darker tint of violet, according as the connective tissue of new formation is more or less abundant.

The examinations of these sections show also the deformities which the cord may have undergone, and allow us to measure very exactly the dimensions of each fasciculus, by appreciating the differences which may exist on one side or the other.

Finally it is best to remove from these hardened cords some very thin slices which, treated first by caustic soda, then by glycerine, show in the clearest manner, even to the naked eye, the altered parts. The latter appear as clear, transparent patches, plainly contrasting with the surrounding tissue which remains opaque; and under the microscope, they seem studded with a variable number of black points, representing the tubes which have not been attacked by the degeneration.

If we wish a preparation of the whole structure which will also serve for a study of the elementary alterations in detail, the section must first be placed in a weak solution of carmine, made neutral by acetic acid; at the end of a few hours, when we consider it sufficiently colored,



we wash it with water, then with absolute alcohol, finally we treat it with rectified essence of turpentine, and finish the preparation in Canada balsam.

This mode of preparation is also applicable to longitudinal sections. We see in them the varicose condition of the tubes, which, although comprised in the diseased parts, have been respected by the degeneration, but have been surrounded and then deformed by the connective tissue of new formation.

Thus far, I have studied the secondary degenerations in themselves, without considering the varieties of situation which these alterations may present in the different columns of the cord. The anatomical facts are general; they are applicable to all cases, whatever be the direction in which the degeneration is produced, ascending or descending, whatever be the nature or location of the primitive lesion to which they succeed.

I am now going to commence the especial study of these degenerations, and demonstrate in what direction these lesions are produced, to what columns and what portions of columns they are limited, according as the primary disease is situated in such or such a part of the nervous system. I shall study successively the secondary degenerations of the spinal cord, in consequence of primitive lesions, 1st, of the cerebral hemispheres; 2d, of the cerebral peduncles; 3d, of the pons; 4th, of the medulla oblongata; 5th, of the cord itself; 6th, of the spinal roots. At a future time we shall without doubt form a seventh class for ascending degenerations of the cord in consequence of primitive lesions of the ganglia of the posterior roots; but I do not know that any observation is in existence at this day which can enter into that division.

## I. SECONDARY DEGENERATIONS AS A RESULT OF PRIMITIVE LESIONS OF THE CEREBRAL HEMISPHERES.

These degenerations are the first which were discovered. It is to these that the observation given in the *Sepulcretum* refers; these are those the existence of which M. Cruveilhier suspected; it is these which are referred to in the first exact works published upon this subject by L. Türcke, by MM. Charcot and Turner, and by Schroeder Van de Kolk. Up to this time a certain number of observers have proved facts of this kind; but we may say that the subject, as yet very incompletely known in an anatomical, is not at all understood in a clinical point of view.

We will point out hereafter the symptomatic peculiarities which may be referred to these degenerations. As to the precise seat of the alteration, the numerous facts which we have gathered during the last three years, both at the Salpêtrière, in the service of M. Charcot, or at the hospital Sainte-Eugénie, in wards of M. Triboulet, seem to us to fully confirm the ideas advanced in 1851, by L. Türcke.

But before entering into the details of this anatomical study, some preliminary questions should be decided.

And first, Do all morbid conditions of the hemispheres determine secondary degenerations? Thus proposed, the question ought to be answered in the negative. I have never found a trace of this alteration in simple cases of compression by tumors of the membranes, by effusions into the arachnoid, or by thick false membranes of the dura mater, with meningeal hemorrhages. Even very extensive superficial lesions of the convolutions do not produce any descending degeneration. This lesion is met with, neither in acute meningeal encephalitis, nor in tuberculous meningitis, nor in the diffused meningeal encephalitis of general paralysis, nor in the majority of



superficial softenings of the convolutions either red or yellow. But certain lesions of the peripheral portions of the brain which interest the deep layers of the gray cortical substance, and destroy them, such as the yellow patches, and which encroach even upon the subjacent white tissue, may give rise to secondary degenerations which are usually not very marked.\* As a general rule these degenerations result from lesions of the central portions of the hemispheres. It is above all in cases of hemorrhages or of softening of the corpora striata that they easily reveal themselves to the observer. Still it is not necessary that the lesion should occupy exclusively the centre of the ganglia of gray substance. There is a remark verified a number of times by M. Charcot and M. Vulpian, that the most manifest secondary degenerations succeed primary lesions which have destroyed to a greater or less extent the little white bands† interposed between the two corpora striata (capsule interne de Burdach.) Lesions of the optic thalami also produce descending degenerations, which however are generally less marked than those which are consecutive to destruction of the corpora striata. Finally, I have observed recently, with M. Charcot, a case of secondary alteration of the cord connected with the existence of depots of cellular infiltration in the centrum ovale. We see that a certain degree of vagueness reigns over this subject, and that the intensity of secondary degeneration, compared with the extent of the primitive lesion and with the exact situation of this lesion, deserves to be studied

\* See the observation already cited of Egris Valentine, where I have seen evident descending degeneration result from a yellow patch spread over several convolutions, with integrity of the corpora striata and the optic thalami, as well as of the expansions of the peduncles. (Trousseau, Clinique Medic., loc cit.)

† Taenia semi-circularis.

in a more precise manner. This will be the surest way of knowing what relative quantity of nerve tubes each part of the brain sends directly to the spinal cord, and what location these tubes occupy in the substance of the rachidian axis.

Thus far, the labors of M. Türcke have only determined with exactitude the distribution of the descending degeneration in consequence of cerebral lesions; and if the results at which he has arrived are incomplete, as much in regard to the process of this degeneration as to that of the final evolution which it undergoes, we ought to acknowledge that he has determined with certainty the location which the lesion occupies in the cord. More recent works have added nothing to his description, and the numerous facts which I have been able to collect, have all conformed to the localization which he had indicated. A single fact anterior to his researches bore witness to the correlation which may exist between atrophies of the cord and lesions of the brain; but this fact had not been understood. I would speak of the observation of Wepfer, which I have mentioned before. It concerned a young girl with paralysis of the left arm, who had in the right hemisphere two cavities as large as eggs and filled with a turbid liquid. The corpus striatum and a portion of the corpus callosum were ulcerated. It is said, in the observation that the cord did not fill the rachidian cavity which contained a good deal of sanguinolent serum. The author adds: "*Quae (the cord) firma et nitida erat, sinistra tamen pars dextra minor videbatur.*" The history of secondary degenerations of the cord was limited to this phrase, before the works of Türcke. However, Rokitansky\* had remarked, after a considerable loss of substance of the hemispheres by hemorrhage or inflammation, an atrophy

\* Patholog. Anat., 1re edit., t. e, p. 715.



of the peduncle, of the pons Varolii, of the medulla oblongata and of the spinal cord.

Thus, there exists an intermediate step between the alteration of the cord and the primitive lesion of the hemisphere. The degeneration is above all marked in the peduncle and in the medulla oblongata. It was that which attracted the attention of M. Cruveilhier, and that which he has described with exactitude. I should say that the succinct description which he has given of it is a resumé of a long observation of facts which have not been published. A single case of descending degeneration as the result of lesion of one hemisphere is given in his Atlas of pathological anatomy;\* it is so incomplete that it could not have enabled this author to give the excellent description of secondary degenerations of the medulla oblongata to which I have already referred. The observation to which I allude is that of Jeanne Hamel, who died at the Salpêtrière, the third of January, 1833, at the age of 72 years. This woman had a left incomplete hemiplegia, a paraplegia with rigidity, and showed some defects of intellect. Death was the result of an acute red softening of the convolution. They found in the midst of the cerebral substance several little cicatrices of former effusions and linear induration in the substance of the left peduncle. The pons was a little deformed, the median line prominent, the lateral portions depressed; it contained in its substance, on the right side, a little cellular cavity; the cord was indurated. We might ask if any one of these lesions is the result of a secondary degeneration. The induration of the left peduncle could not be considered as a descending alteration, from the fact that it was indurated; besides it is not stated whether there were marks of disease in the

\* Anatomie Patholog., 32 livrais., p. 15.

left hemisphere; finally in this case the hemiplegia should have been in the right and not in the left side. The cellular cavity of the pons was only the trace of a primary softening. The flattening of the pons on the left side could, alone, be attributed to a secondary degeneration of its longitudinal fibres; but did this degeneration have its primitive cause in the hemisphere or in the peduncle? As for the cord, its induration, which was indicated by the paraplegia, could not in any manner be considered as the result of a descending alteration.

I have already indicated the characters of descending degeneration in the medulla oblongata. As this is not the object of this work, I will not here enter into fuller details, and I pass to the examination of the situation which the secondary degeneration consecutive to lesions of the hemispheres occupies in the spinal cord.

The alteration which, in the bulb, is limited to the anterior pyramid of the side corresponding to the primary lesion of the brain, penetrates the cord following the distribution which normal anatomy indicates; it follows the decussation of the pyramids, and occupies in the cord the side opposite to the primitive lesion. In all cases where a secondary alteration of the bulb is manifest we find an alteration of the same nature in the antero-lateral column of the cord on the opposite side. But this alteration does not spread throughout the whole thickness of the antero-lateral column; it occupies a precise location in it, it is limited to the posterior portion of the lateral column between the postero-lateral fissure and the ligamentum denticulatum. It is at this point that Türcke found the granular corpuscles; it is there also that the lesion has always seemed to me to be located. In cases of considerable and very advanced degeneration, where a large number of tubes have dis-



appeared and have been replaced by connective tissue, we see the antero-lateral column, healthy in the remainder of its structure, present a spot as if colored by carmine at this exact point which in their sections contrasts by its transparency with the surrounding tissue, and looks like a hole cut by a punch. All around the medullary is normal and we always find a little band of healthy white substance which separates the altered portion from the pia mater. This is the reason why even in cases of very considerable degeneration the external examination of the cord does not allow us to perceive any modification in the color of the altered column, while we can do so in true sclerosis of the lateral columns when the diseased tissue, being in direct contact with the meninges, is recognizable from its peculiar gray tint. However, in hardened cords, we can sometimes see at this point a deformity of the organ, a depression of its surface which forms an abnormal furrow in advance of the line of attachment of the posterior roots. The alteration of the posterior portion of the lateral column, more marked in the cervical region, diminishes as it recedes from the bulb; but we can in most instances follow it throughout a great extent of the cord, sometimes even to the inferior part of the lumbar enlargement.

We know that at the inferior part of the bulb the decussation of the pyramids is not complete, but that a portion of the fibres which compose each pyramid approach the median line so as to form the internal part of the anterior column of the same side. This anatomical fact would lead us to expect that in certain secondary degenerations we should observe, as a result of a lesion of a single hemisphere, a degeneration of the posterior part of the opposite lateral column, and of the internal part of the corresponding anterior column; that

is to say a lesion of both sides of the cord. This is what we see in reality. Out of six cases of secondary degeneration consecutive to lesions of the brain, L. Türck has seen, in three, the alteration of the internal part of the anterior column accompanying that of the lateral column of the opposite side. I have had occasion to observe this double degeneration with M. Charcot; but, in a greater number of autopsies, I have only once been able to see the condition of sclerosis which succeeds to the destruction of the tubes, in the anterior column of the side of the cerebral lesion.\* In this case the alteration formed a narrow little band, clearly distinct from the healthy tissue, applied to the expansion which the membranes send into the anterior sulcus, and reaching in front, the inner surface of the pia mater, and behind, the anterior face of the commissure. Perhaps my attention has not been sufficiently fixed upon this question; at all events, this alteration of the anterior column seems to me to be rare, besides it is always accompanied by an alteration of the same nature, and more pronounced, of the posterior portion of the lateral column of the opposite side. In order that it should occur, the alteration of the anterior pyramid must be extensive and must interest its external portion. Secondary degeneration of the internal portion of the anterior columns, as a result of lesions of the hemispheres, does not extend through the whole length of the cord. In the case which I have seen, it could not be recognized at the middle of the dorsal region; but Türck says, that, in two cases, he has been able to find the granular corpuscles as far as the level of insertion of the roots of the last intercostal nerves.

\* I am indebted to MM. Charcot and Vulpian for the communication of an analogous observation gathered by them in 1862.



## II. SECONDARY DEGENERATIONS AS A RESULT OF PRIMITIVE LESIONS OF THE CEREBRAL PEDUNCLES.

The absence of proper documents will oblige us to make this a brief chapter. A single observation has been published up to this day; still it may be disputed whether it was secondary degeneration. It had reference to a fibrous tumor of the left cerebral peduncle in an epileptic. The case was presented to the Society of Biology by MM. Cornil and Thomas.\* The tumor had produced an atrophy of the peduncle, and this atrophy extended to the pons and to the anterior pyramid of the same side. The tissue of the atrophied parts presented no analogy to that of the tumor; it was in every respect similar to that of parts affected by sclerosis, the posterior columns of those suffering from ataxy, for example; no granular corpuscles were met with. It may be that this was not a secondary degeneration at the period of proliferation of connective tissue, but a sort of chronic inflammation of the peduncle occasioned by the tumor, an inflammation which would be propagated in the direction of the fibres of the part, just as is usually observed in primary sclerosis. At all events, the condition of the cord has not been given in the observation.

I have recently seen, in an autopsy made at the Salpêtrière, two symmetrical points of softening in the cerebral peduncles, the pons was flattened on each side of the median line, and the anterior pyramids presented the atrophy and the yellowish gray color characteristic of secondary degeneration; but a microscopic examination was not made, and the cord was not examined.

## III. SECONDARY DEGENERATIONS AS A RESULT OF PRIMITIVE LESIONS OF THE PONS.

Observations are still more completely wanting on this subject. A single case, although very incomplete,

\* *Comptes-rendus de la Société de Biologie*, 1864, p. 46.

seems to us worthy of being mentioned. I borrow it from the Atlas of Pathological Anatomy of M. Cruveilhier.\* Marie Duffet, aged 57 years, died at the Salpêtrière, June 3, 1834. Was hemiplegic on the right side; motion was entirely lost on this side, and there was an incomplete loss of sensibility. The members of the left side were not possessed of their natural power of motion. At the autopsy the brain was found to be healthy; but in the pons was discovered an old apoplectic dépôt implicating both sides, more extensive superficially on the right, but deeper on the left. The anterior pyramids were atrophied, especially the left.

The plate which represents this lesion being inexact, I cite word for word the correction of the author: "The anterior pyramids were atrophied to such a degree that, in my notes taken at the time of the examination, I have written: 'No anterior pyramid on the left side, the right anterior pyramid atrophied.' On this account I ought to correct the figure, which, having been finished in my absence, resembles the normal condition a great deal too much."

Finally it is said in the observation that the cord was healthy.

Although incomplete, this observation at least proves that the intensity of the secondary degeneration is the more pronounced as the primitive lesion is nearer the bulb.

#### IV. SECONDARY DEGENERATIONS AS A RESULT OF PRIMARY LESIONS OF THE BULB.

In proportion as the primitive lesion approaches the spinal cord, the secondary degeneration of this nervous centre ought to become more marked and more complicated: every deep lesion of the peduncle, of the pons or

\* 21 livraison, pl. v., fig. 3.



of the bulb ought to produce an alteration not only of the tubes which have their origin in the altered part, but also of those which, commencing higher up, pass through that part and are there injured in one point of their course. This increasing complication of secondary degeneration could not have been treated of in the preceding paragraphs, since in none of the cases of primary alteration of the peduncles or of the pons Varolii which we have mentioned, has the condition of the cord been studied. It is not so in primary lesions of the bulb; but these cases are rare, for the alterations of this part of the nervous centres generally produce death before the degeneration has had time to become developed. We have not found in the authors any observation which can instruct us with regard to the disposition of descending degenerations consecutive to primary lesions of the rachidian bulb. The description which we will give of them rests solely upon two observations, of which one was taken by us at the hospital Sainte-Eugénie, the other was sent to us by M. Charcot.

The first case regarded a little girl of five years, affected by cervical arthritis. An abscess produced by caries of the axis softened in front of the dura mater, and lifted this membrane even in the interior of the cranium for two centimetres in front of the occipital foramen. The bulb was compressed and flattened from before backwards by this collection of fluid, and, besides, an inflammation, which, had caused adhesions anteriorly between the arachnoid and dura mater, had implicated even the tissue of the bulb, the superficial portion of which was the seat of a red inflammatory softening. Death, which was the result of this inflammation, occurred about fifteen days after the commencement of the paralytic symptoms which we could attribute to the compression. Several sections made at different parts of the cord at points

which were neither compressed nor inflamed, showed, in the fresh condition, numerous granular corpuscles throughout the whole of the antero-lateral columns accumulated especially in the posterior half of the lateral columns. The capillaries presented in a marked degree the atheromatous appearance; there was not as yet any proliferation of the the elements of connective tissue. The posterior columns were perfectly healthy.

In the second case, the bulb was compressed by a dry arthritis; the new formations of bone narrowed considerably the occipital foramen, and a marked thickening with increased length of the odontoid process diminished still more the free space occupied by the bulb. The compression was exerted especially upon the anterior and left lateral portion of this organ; the point most compressed appeared to be the inferior part of the left pyramid, immediately above the decussation. The commencement of trouble dated back one year, therefore there was an abundant production of connective tissue in place of portions of the cord secondarily degenerated. These anatomical specimens have been presented to the Society of Biology, by M. Charcot, and we owe to his kindness the opportunity of renewing upon this cord, preserved in chromic acid, the examination which had been made by him in the fresh condition, at the time of the autopsy, and afterwards upon thin sections, after hardening the organ.

In the fresh condition there was seen by the naked eye, throughout the whole extent of the rachidian axis, a gray coloration of the posterior portion of the right lateral column, in the seat of election of secondary degenerations consecutive to cerebral lesions. This gray tissue was composed of varicose tubes, an amorphous transparent granular matter, numerous oval or spherical nuclei and amyloid bodies. The sections made from the



hardened cord showed at this point a diminution of the tubes; but this transparent spot due to the accumulation of connective tissue of new formation, did not resemble a simple hole, it reached the inner face of the pia mater; besides, the neoplastic production continued along the surface of the antero-lateral columns and penetrated into the anterior sulcus, thus showing a destruction of the more superficial tubes of these columns on both sides. Finally at the posterior portion of the left lateral column a rarefaction of the tubes could be seen as on the right side but less considerable. This degeneration of the left lateral column was not recognizable in sections made in the fresh condition. I should add that, on both sides, but above all on the right, the proliferation of connective tissue of the posterior and external portion of the lateral columns had implicated for a very short distance the contiguous portion of the posterior columns, between the extremity of the posterior cornua and the collateral posterior sulcus. These different lesions manifested the characters which I have pointed out, only in the cervical region; below the brachial enlargement, only the alteration of the lateral columns was visible, and at the inferior part of the dorsal region, only the degeneration of the posterior part of the right lateral column could be found, which was then seen with the same characters as those of degenerations of cerebral origin; that is to say that the transparent portion occupied by the connective tissue formed a circular hole separated from the meninges by a little band of healthy medullary tissue.

We see that in these two cases the seat of the lesion does not appear to be the same; however, we observe that the degeneration was not limited to the posterior parts of the lateral columns, but that it extended in the substance of the antero-lateral columns. The only

difference is that, in the recent case, we found some granular corpuscles in the substance of the anterior column and of the anterior part of the lateral column, while in the case of longer duration we did find that there was, in these parts, an accumulation of connective tissue which had undergone proliferation only at the surface. But we must remember that the new formation consecutive to destructions of tubes, becomes developed and is apparent only in those cases where a considerable number of nervous elements has been destroyed at the same point, while the degeneration of a few isolated tubes suffices to produce granular corpuscles. The alteration of the substance of the anterior portions of the antero-lateral columns may therefore be manifest in a recent case, and not be appreciable in a case of longer duration. This remark is applicable to a very large number of cases of secondary degenerations. It is very seldom that, in cases where death occurs during the first few months after the commencement of a very limited lesion of the brain, we do not find in the cord granular corpuscles or atheromatous capillaries; on the contrary it is often the case that we cannot find any proliferation of connective tissue at the seat of election in even more extensive cerebral lesions when death takes place at a period when the granular corpuscles have had time to disappear. The study of degenerations consecutive to primary lesions of the cord itself is about to furnish us new arguments in support of this mode of considering the subject.

I should still say a word or two about the very limited alteration noticed in the posterior columns of the cervical region in the last observation. Are there some tubes which arise from the bulb, and, following a downward course, occupy the most external part of the posterior columns? in other words, are there, in the



posterior columns, some whose centre of nutrition is situated higher up in the bulb or beyond it? All the known facts up to this day and those which we will discuss in the two following paragraphs contradict this hypothesis, and perhaps in this case we have an instance of the propagation to neighboring parts of a formative irritation, the seat of which was in the lateral columns.

In conclusion, we may say, after these two observations, that secondary alterations of the cord depending on primitive lesions of the bulb, affect the whole of the antero-lateral columns with a greater intensity at the surface than in the deeper parts, but that the degeneration implicates the greatest number of tubes in the posterior part of the lateral columns.

#### V. SECONDARY DEGENERATIONS CONSECUTIVE TO PRIMITIVE LESIONS OF THE SPINAL CORD.

The secondary degenerations of the cord which follow a lesion at a given point of this nervous centre have been observed under very varied circumstances; but it is more especially as a result of compressions of the cord by tumors of the meninges, by purulent collections in the rachidian canal, by fractures of the vertebral column, and above all by Pott's disease, that they have been studied. They have also been seen to follow diseases of the tissue of the cord as partial sclerosis; but these last facts, I should say, are still very obscure. If the original disease of the cord is acute, it seldom gives time for the degeneration to be produced; if on the other hand it is chronic, the alteration of the tubes, even in the locality of the lesion, advances slowly, and the portion which is external to this locality may then gradually become atrophied, in such a manner that the production of the secondary lesion does not appear to be absolutely identical with that which we have formerly indicated.

Every lesion of the cord at one point of its course destroys, by descending degeneration, not only the fibres which come directly from the different parts of the brain, but also those which have arisen from the gray substance of the cord above or at the level of the part injured. The descending degeneration then presents the greatest complications. On the other hand, the posterior columns, injured at one point of their course, degenerate on one side of the point primitively altered. This alteration of tubes whose centre of nutrition is at their inferior extremity, gives rise to ascending degenerations which we will constantly find in the posterior columns, and sometimes in a certain part of the lateral columns.

I shall first study the descending alterations: they have the greatest analogy to those which result from primitive lesions of the bulb. This descending degeneration has been observed quite a large number of times by L. Türk. His first memoir\* contains three cases of it; two years later he reported in detail twelve new cases.† In the majority of the cases it was connected with compressions of the cord by Pott's disease. Below the primary lesion, the posterior columns were always found perfectly normal; the degeneration affected exclusively the antero-lateral columns which were seen to be studded throughout their entire substance with granular bodies, accumulated principally at the posterior part of the lateral columns. Passing from the point primitively injured, and approaching the cauda equina, it was found that the alteration of the anterior columns, and of the anterior part of the lateral columns, dimin-

\*Ueber secundäre Erkrankung, etc. (Comptes-rendus de l'Acad. des Sciences de Vienne, Mars, 1851.)

† Ueber secundäre, etc. (Comptes-rendus de l'Acad. des Sciences de Vienne, Juin, 1853.)



ished in intensity and disappeared entirely at about the fourth insertion of nerves below the point compressed; but, at this level the granular bodies still existed in abundance in the posterior and external part of the lateral columns, and in some cases could be found even at the inferior part of the cord.

Ten years later, Leyden reported a fine case of secondary degeneration of the cord by Pott's disease, in a little girl aged three years and nine months.\* Below the point compressed the antero-lateral columns were the seat of a gray degeneration, especially at the periphery; the posterior columns were healthy. Leyden seems to me not to have understood the process of secondary degeneration which has reached the exaggerated production of connective tissue, and he was wrong when he wished to support upon this fact a theory concerning the nature of the process of the gray degeneration of the posterior columns in locomotor ataxy. In this case of secondary degeneration, the transparent material interposed between the tubes did not contain many nuclei, and did not offer a trace of amyloid bodies; peculiarities which connect this case with degenerations of long standing, such as we have described, and which separate it from the medullary sclerosis, such as we find in ataxy. During the same year, M. Cornil sent to the medical society of observation an example of compression of the cord, found in the service of M. Charcot. He says that he found the inferior segment of the cord normal. But an examination was only made of a few morsels of medullary tissue, and perhaps if he had made sections of the inferior portion of the organ, an abnormal production of connective tissue in the posterior portions of the lateral columns might have been recognized in

\* Die graue degeneration der hinteren Rückenmarksstränge, p. 117; Berlin, 1863.

place of granular bodies which had disappeared. However, in another case, seen the next year by the same author, the descending degeneration, such as Türk had observed it, was indicated in the most exact manner. The compression, in this case, had been produced by a fracture of the vertebral column; and in the notes which M. Cornil was kind enough to give us, it is said that in the inferior segment the posterior columns were found perfectly healthy, but that the antero-lateral columns enclosed all through their substance numerous granular corpuscles, especially at the posterior part of the lateral columns.

About the same time, M. de Lacrousille showed to the anatomical society an epithelial tumor of the rachidian arachnoid which had compressed the cord and determined a paraplegia whose commencement dated back thirteen years. The patient had been observed in the service of M. Vulpian. In a report which I was deputed to make before the Anatomical Society upon this presentation, I pointed out the following results to which an examination of this cord conducted me. The compression which was situated above the lumbar enlargement had reduced the cord to such a degree that the meninges seemed to touch one another. Below the point compressed the cord was notably diminished in size, but the atrophy did not exclusively affect the antero-lateral columns. The examination was not made in the specimen in the fresh condition. In sections obtained after hardening it in chromic acid, a considerable rarefaction of the tubes was seen at the posterior part of the lateral columns, forming a transparent spot which in width came in contact with the meninges. This lesion diminished in extent as it went further from the point compressed, but it could be traced to the inferior part of the lumbar enlargement. The methods of pre-



paration employed did not allow of any search for the existence of granular bodies, which, considering the long duration of the lesion, had probably disappeared. As for the atrophy of the anterior columns and of the anterior portion of the lateral columns, it apparently resulted from the disappearance of a large number of nerve tubes, which disseminated through these fasciculi, had allowed the tissue to contract upon itself without leaving any empty space between the elements which remained.

The following year I had an opportunity of taking at the hospital Sainte-Eugénie, in the service of M. Triboulet, the observation of a little girl of thirteen years, affected with caries of the vertebræ at the lower part of the dorsal region. Death occurred about six weeks after the commencement of the paralytic symptoms which were the result of the compression of the cord by an intra-rachidian abscess. The portion situated below the point compressed showed a perfect integrity of the posterior columns, but numerous granular bodies were found through the substance of the antero-lateral columns, especially at the posterior portion of the lateral columns which, at the lower end of the organ appeared to be the only ones altered. No hypergenesis of the elements of connective tissue was found.

M. Charcot has communicated to me an observation of compression of the cord by caries of the vertebræ, taken in 1865, at the Salpêtrière, in which these descending lesions present the same characters. The paraplegia became complete only three days before death; nevertheless granular bodies were already to be found in the lower segment of the cord.

Finally, I have recently had an opportunity of observing at the Salpêtrière, in the service of M. Charcot, a case of compression of the cord produced by a cancer-

ous tumor developed in the posterior lamina of the first dorsal vertebra. Besides this, a collection of pus had softened in the rachidian canal and slightly compressed the cord on its posterior aspect, outside of the dura mater from the situation of the tumor to a point about one inch above the lumbar enlargement. The patient died five and a half months after the commencement of the paraplegia. All the columns were altered in the compressed portion; but below, in the lumbar enlargement, the posterior columns were healthy, while the lateral columns contained a considerable number of granular bodies, and a finely granular amorphous material, in which was found a large number of myélocytes and other very elongated nuclei, resembling embryoplastic nuclei. In the anterior columns also granular bodies were found, relatively much less numerous; besides there were seen, between the nerve tubes, some myélocytes and embryo-plastic nuclei as in the lateral columns, but in reality much less abundant.

From all these facts, it is clearly evident that, in cases of primitive lesion of the cord, the descending secondary degeneration occupies exclusively the antero-lateral columns; that the posterior columns always remain intact; that, in the antero-lateral columns, the principal and most extensive alteration is limited to the posterior portion of the lateral columns; and that the anterior columns and the anterior portions of the lateral columns also degenerate, but that, in these fasciculi, the degeneration rapidly diminishes, so as to disappear entirely at a short distance from the part originally injured.

Let us proceed now to the study of ascending degenerations of the cord consecutive to primary lesions of that organ. These degenerations have been observed eleven times by Türck. They implicate the posterior columns and the posterior portion of the lateral columns. The



anterior columns above the point primitively injured have always been found healthy.

The alteration of the posterior columns, which may occupy the entire surface of the section immediately above the lesion, gradually becomes narrower in proportion as it approaches the bulb, and leaves, at its external portion, the medullary tissue perfectly healthy. The granular bodies are become more and more limited to a zone which rests upon the posterior sulcus and upon the posterior surface of the cord. In the cervical region, they are only found in the smaller fasciculi, and the lesion disappears at the level of the floor of the fourth ventricle.

In the lateral columns, the granular bodies occupy the same situation as in the descending degenerations; but their number progressively diminishes as they approach the bulb. At this level, in place of affecting the anterior pyramid of the opposite side, as is observed in descending degeneration, they continue their course in the restiform body of the same side, pass upwards behind the olivary, and can once more be found at the insertion of the restiform body to the cerebellum, without having undergone any decussation in the substance of the medulla oblongata.

In the case of compression of the cord in a little girl, which I have reported above from Leyden, there was also an ascending degeneration, but this lesion implicated only the posterior columns; the nerve tubes were diminished in number and separated by a transparent material, just as in the gray degeneration of the posterior cord in persons affected by ataxy. In the case presented by M. Cornil to the medical society of observation, it is said that they found above the point compressed some granular bodies in the posterior columns and in the neighboring portion of the lateral columns.

In the second case of M. Cornil, they also found that the posterior columns, above the lesion, presented a very large number of granular bodies, and they also found some of them in the antero-lateral columns, principally in the course of the vessels.

In the patient of M. Vulpian, who has been the subject of a communication to the Anatomical Society, I have found one of the most manifest ascending degenerations occupying exclusively the posterior columns. Numerous sections, made at different levels above the point compressed, gave me the following results: Immediately above the lesion, we find the tubes diminished in number throughout the whole substance of the posterior columns; a little higher up, we find upon each side a little band of healthy tissue applied upon the internal face of the posterior cornua; the alteration occupies all the remainder of the posterior columns, and presents altogether the figure of a trapezium, the two parallel bodies being formed, one in front, by the gray commissure, another, behind, by the meninges, the two others being parallel to the posterior cornua. In proportion as we depart from the primitive lesion, these two last borders approach one another more, at the same time that the little bands of healthy tissue, situated at the external parts of the posterior columns, increase in thickness. At length these two borders end by uniting in front at the junction of the commissure with the posterior sulcus. At this point, the altered portion appeared upon the section like the figure of an isosceles triangle, the base of which was behind on the meninges, the summit on the middle of the commissure, and the posterior sulcus formed the perpendicular dropped from the summit to the middle of the base. A little higher up, the lesion still preserved its triangular form, but it continued growing more contracted; the base which rested



upon the posterior part of the organ, diminished in length, and the summit left the commissure so as to approach little by little the base, following down the posterior sulcus; at length the alteration terminated at the level of the fourth ventricle. In this patient, the lateral columns presented no abnormal appearance.

In the little girl of thirteen years of whom I made an examination at the hospital Sainte-Eugénie, the granular bodies were seen only in the posterior columns above the tumor.

In the observation of recent compression by vertebral caries, which was communicated to me by M. Charcot, the granular bodies were also only found in the posterior columns above the point compressed.

It is not the same in the case of paraplegia from cancer of the vertebral column, recently observed by M. Charcot; the ascending degeneration affected at the same time the posterior columns and the posterior part of the lateral columns; it was characterized by the presence of granular bodies, of isolated fatty granulations, in large numbers and by the atheromatous appearance of the vessels in these parts.

We may conclude from an analysis of the preceding facts, that ascending degenerations of the cord are developed consecutive to primary injuries of that organ, and these secondary degenerations principally affect the posterior columns; that in these columns they gradually diminish in intensity, become limited little by little to the internal and posterior fasciculi, and terminate in a point at the floor of the fourth ventricle.

The alteration of the posterior part of the lateral columns is not mentioned in all the observations. It may be remarked, in this connection, that in the cases of Türk, in which this alteration was present, the

primary lesion was located quite high up the cord, at least above the middle of the dorsal region.

In one of the observations which I have taken, the cord was compressed just above the lumbar enlargement, and the lateral columns were intact. In another case this lesion was wanting, and the injury was located below the middle of the dorsal region. In the only case where I have found the lesion of the lateral columns, the compression was due to an alteration of the first dorsal vertebra. It would appear that the height of the primary lesion is not without influence on the alteration or integrity of the lateral cord from ascending degeneration. At all events this degeneration is of frequent occurrence and continues upward in the restiform bodies. Let us add in conclusion, that the anterior columns and the anterior part of the lateral columns are never altered by ascending degeneration.

#### VI. SECONDARY DEGENERATIONS CONSECUTIVE TO PRIMARY LESIONS OF THE POSTERIOR ROOTS.

Another ascending degeneration of the cord is observed as a result of primary lesions of the posterior roots; but we know of only one case which demonstrates this alteration: it was found in the ward of M. Trousseau, and the anatomical preparations have been presented to the society of biology by M. Cornil. An intra-rachidian tumor compressed the cauda equina without touching the cord; the nervous alteration implicated equally the anterior and the posterior roots; but as far as regards the secondary degenerations of the spinal cord, we may neglect the alteration of the anterior roots, which, according to the results of Waller's experience, degenerate only in the direction of the periphery. The posterior roots, on the contrary, injured above the ganglia which are annexed to them, should



degenerate in the centripetal direction. This is what was found in reality. Besides, the cord presented throughout its whole length a diminution of the tubes of the posterior columns. This rarefaction implicating the whole of the posterior columns at the level of the lumbar enlargement diminished gradually in intensity as it ascended, and became confined to the internal and posterior portions of the posterior fasciculi. However, the form of the alteration upon sections made at different levels was not identical with that which we have indicated for ascending degenerations from primary lesions of the cord itself. In place of being, as in the latter case, bounded laterally by two diverging straight lines, nearer one another in front than behind, the degeneration from injury of the cauda equina was circumscribed by the arc of a circle, the convexity of which was turned forward towards the commissure, and the two extremities of which rested upon the posterior face of the cord. The degeneration disappeared at the level of the floor of the fourth ventricle.

Before coming to the study of the functional troubles by which secondary degenerations of the cord betray themselves, we may deduce from the facts already demonstrated some conclusions relative both to the intimate nature of the process of these degenerations and their proximate causes, and to the normal structure of the spinal cord.

[To be continued in the April Number.]

## CLINICAL CASES.

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BY JUDSON B. ANDREWS, M. D.

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### CASE I.—*Apoplexy in a boy of fifteen years.*

J. M., aged 15. Nothing extraordinary or peculiar in physical development; was healthy during childhood; at school learned easily, and retained knowledge acquired. In disposition cheerful and kind, at home obedient, easy of control, and manifested no desire to seek improper associates. Suffered from no serious disease till April, 1868, when he had a severe attack of typhoid fever, and was sick for three months. During the course of the fever he was delirious about two weeks. Although he recovered, he did not regain his former degree of strength and flesh. At this time he gave evidence of mental disturbance in a marked change of disposition and conduct. Began to pilfer from the gardens of neighbors, sought evil associates, became profane, disobedient to his parents, irritable in temper. Struck a little sister without provocation, and when reproved and punished, exhibited strong paroxysms of anger; also danced and sang comic songs, all of which was contrary to his former life and habits. In August last, while at play, he was hit on the forehead by a stone thrown by a comrade. A flesh wound was inflicted penetrating to the bone. This afterward gave his parents considerable anxiety, as they feared the injury might be of a permanent character, and result in an increase of the cerebral disorder. The history as given above was obtained at the time of his admission to the asylum, in September, 1868. He replied readily and intelligently to questions, exhibited no peculiarities of



speech or manner, was in a fair state of flesh, eyes bright, pupils dilated, countenance somewhat pale and anemic, no complaint of headache or other bodily ailment. For a few days, patient gave no special indication of insanity, but soon became profane, put outside clothing in bath tub to wash it; ate voraciously, and at times vomited food: was contented and cheerful. On being spoken to, restrained himself, and afterward by his conduct gained the good will and regard of all. He was obedient, and anxious to make himself useful. There was little change in physical condition and no marked evidence of disease. On the morning of the twelfth of November, he asked to assist in some light work on the ward. After a few moments he suddenly complained of headache and pain in stomach, and was put to bed. He soon screamed, and passed into a convulsive state, in which there was opisthotonos, and bowels and bladder were evacuated. He immediately became maniacal, which condition lasted about two hours, then was rational and conversed freely, but complained of pain in his head. Countenance and lips were blanched, but there were no other signs of serious trouble. Said he felt at times as though he had swallowed tobacco. He continued thus till four P. M., when he died suddenly without convulsions. Autopsy, at request of friends, sixteen hours after death. Sub-arachnoid cavity was filled with thin layer of blood which seemed to have escaped from vessels of pia mater, which were much congested. The hemorrhagic effusion, although well marked over the convex surface of the hemispheres, was more abundant anteriorly and about the base of the brain. At the point of decussation of the optic nerves there was a considerable quantity of clotted blood. The two lateral and also the third and fourth ventricles were filled with blood clots and liquor sanguinis. The cerebral

substance appeared normal in color and consistency, but the microscope revealed an advanced degeneracy of the walls of the blood vessels. There were no evidences of injury to the skull or membranes beneath the part struck by the stone. (Notes of autopsy from report of Dr. E. R. Hun, special Pathologist to the Asylum.)

There are several points of interest in the case reported above. Apoplexy in the young is extremely rare. Mushet in an analysis of a large number of cases finds but six occurring before the age of twenty. Abercrombie gives only one case of true apoplexy as early as the ninth year, and (Mushet) "it is evident from the symptoms and the 'effusion of coagulated blood enveloping the whole extent of the cord' that it was extension of hemorrhage from the spine upwards." Andral met with a case of cerebral hemorrhage in a boy of twelve, and Copland with one in a patient of eighteen years. In none of these cases, so far as can be learned from the notes given, was the effusion as extensive as in this one. Whether the arterial degeneracy discovered in the cerebral vessels extended to the larger vessels of the body we did not have the opportunity to ascertain. From this case, in which the actual disease developed was in such disparity with the mental disturbance manifested, should it occasion surprise that we often witness the most marked mental symptoms where the physical lesion may be inappreciable to any known method of examination? During the attack which terminated life there was at no time a condition which could be called a state of coma, for as we have stated there was a blanched appearance of the countenance and the patient conversed rationally and freely to the moment of death. May it not have been that in the morning there was a slight effusion from the meningeal vessels, which would account for the convulsion followed temporarily by



maniacal symptoms, and that the large effusion was so suddenly poured out that it instantly destroyed life, thus realizing to its full extent the original and proper meaning of the term apoplexy?

CASE II.—*Bright's Disease.*

J. M. Welch, man, aged 32; temperate, of active habits of life; has passed most of his time in out-door employments. During the war he was in the United States service, in the western department, and after its close traveled extensively through the territories, as far west as the Rocky Mountains. Enjoyed excellent health, having suffered from but one attack of disease. While a soldier he spent about three months in general hospital, and says he had rheumatism, and that he fully recovered. On the 2d of December, he was engaged as an attendant at the New York State Lunatic Asylum, and until time of present sickness performed the duties of his position with regularity, and without complaint of illness. On the 5th of February, 1868, after a few days' exposure, while at work in the snow, patient was taken sick and confined to his bed. The symptoms present were a slight pain in the chest and back, more severe in one ankle, which had been injured several years before. There was some acceleration of pulse, and heat of skin; tongue slightly coated, bowels somewhat constipated.

February 7th, Pain has extended up both limbs, and invaded knee joints, which are slightly swollen; pulse 96 and full; some dyspnœa. February 8th, Patient slept little during past two nights. Tongue dry and brown through center. Complains of severe pain over fourth and fifth dorsal vertebræ, and also in epigastrium. Abdomen tumid. Limbs excessively painful, the weight of the bed-clothes being oppressive. Urine passed fre-

quently, and in small quantity. Sedatives and diuretics internally and counter irritation over vertebræ and epigastrium. February 9th, Pain in spine and abdomen relieved, but continues severe in extremities. Circulation considerably disturbed, and complains of pain over region of heart; blowing sound discovered. Dyspnœa now more marked, and mucous rales now heard in the lungs. February 12th, Pains in limbs and dyspnœa have disappeared. Heart's action more regular, and blowing sound no longer audible. 13th, Urine passed frequently and with some difficulty; throws down flocculent precipitate. 14th, Urine examined, Sp. G. 1,020, very turbid, pale yellow. Deposit is nearly one-third of bulk; albumen present in great quantity. Microscopical examination reveals a large amount of granular material, with crystals of urate of potash and triple phosphates. A single tube-cast detected. Sudorifics and anodynes employed, with a diet almost exclusively of animal food. February 15th, albumen present in less quantity than yesterday: more tube casts with epithelial scales, also crystals of uric acid and the dumb-bell crystals of oxalate of lime.

Quantitative analysis, for 24 hours, as follows:—

Whole amount passed,	-	-	3 pints.
Sp. G.,	-	-	1,020
Total weight,	-	-	20,015 grs.
Solid material,	-	-	1,200 grs.=2½ oz.

February 16th, Urine loaded with albumen, amounting to one half the bulk in test tubes. 18th, Patient losing strength; tongue very dry; pulse 120. Stimulants given freely. 20th, Dyspnœa marked. Pains continue, but are not severe, general hyperæsthesia of whole surface.

Quantitative analysis:—



Sp. G.,	-	-	-	-	-	1,019
Total weight,	-	-	-	-	-	21,768 grs.
Solid material,	-	-	-	-	-	1,143 grs.=2 oz., 3 drs., 3 grs.

21st, Pain sensibly diminished, and did not again appear as a prominent symptom during the course of the disease. 23d, Pulse 132; tongue very dry and brown; appetite light; skin moist; has perspired freely for several days. Albumen is nearly three-fourths the bulk of the urine. Blood corpuscles seen under the microscope. 24th, Countenance has a dusky hue; strength much reduced; pulse weak and frequent. Blood passed in such quantity as to impart its color to the urine. Much pain in micturition, and the last drops passed seemed to be pure blood. Patient becoming deaf.

Analysis for 24 hours:—

Sp. G.,	-	-	-	-	-	1,021
Whole amount passed,	-	-	-	-	-	23,723 grs.
Solid material,	-	-	-	-	-	1,532 grs.=3 oz., 1 dr., 32 grs.

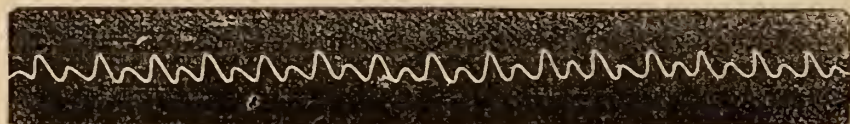
February 25th, Pain in urinating severe; mind clear; is somewhat emaciated; rest considerably broken, but several hours' sleep are obtained during the day.

Analysis for 24 hours:—

Sp. G.,	-	-	-	-	-	1,020
Whole amount passed,	-	-	-	-	-	23,216 grs.
Solid material,	-	-	-	-	-	1,257 grs.=2 oz., 4 drs., 57 grs.

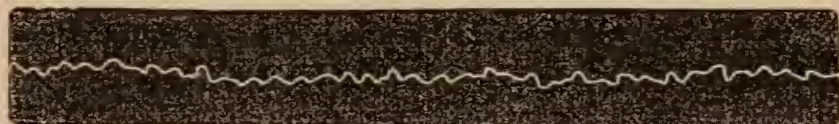
29th, Dyspnœa, a prominent symptom, much relieved by mustard to chest. Uric acid in urine much diminished.

March 1st, Patient rapidly failing; delirious. In delirium, wished physician called, that he might put an end to his life. Pulse as taken by sphygmograph, 152.



Delirium passed away after an hour or two, and patient remained quiet and comfortable during the day.

March 2d, Pulse gave the following trace:—



Blood still passed in great quantity. 3d, Patient gradually sank and died, without convulsions.

Post mortem held by permission of friends, March 5th.—The chest and abdomen only were opened. The lung substance was healthy and pervious to air, except in lower and back portions, where the usual hypostatic congestion was found. There was no effusion of serum in thoracic cavity. The pericardium was firmly adherent to the walls of the heart in every part of its circumference. When removed, by forcibly pulling it off, there remained both upon the membrane and heart itself portions of organized lymph, (through which vessels were visible,) which resembled the ruptured walls of the organ when deeply congested and softened by disease. Kidneys—these differed more than usual in relation to each other and the ordinary standard. The left was nearly twice the average size, and highly congested, while the right was much smaller than common, and nodulated. The rounded extremities of the internal border were so much diminished that it presented a straight line, thus leaving the pelvis entirely external to the inner border of the kidney. On laying them open a fatty deposit was found to have filled the interstices between the pyramids, and to have encroached upon the cortical substance. The other abdominal organs were healthy, and no serum was effused into the abdominal cavity.

We would call attention to a few points in this case, which render it especially interesting:



1st, The disease in its incipency and during the earlier part of its course, simulated an attack of acute rheumatism. This was so marked that the case was so treated, till the presence of albumen was detected. 2d, In no part of the system during life, or afterward in post mortem examination, was there any evidence of dropsical effusion; a fact which though noticed by medical writers is of infrequent occurrence. 3d, The amount of urine passed from the commencement of the disease till two days before death was nearly normal, and varied little from three pints daily. Possibly this may partly explain the absence of effusion. 4th, The amount of solid material excreted with the urine, was during most of the time more than twice that usually passed (as given by Golding Bird) in a state of health, and reached the weight of 3 oz. 1 dr. 32 grs. The comparative bulk of albumen was large, being at times three-fourths that of urine in the test tube.

*Query.*—May it not have been that the attack experienced by the patient while in the service, and described by him as rheumatism, was an acute attack of Bright's disease, from which he recovered; and that with a predisposition to this disease, the exposure spoken of was the exciting cause of its recurrence? In support of this there are the following facts:—The patient spoke of the attack during the greater part of its course as resembling in all respects the prior one. Again, the extreme smallness and nodulated form of the right kidney, with the entire absence of congestion, fully correspond with the changes usually found after the subsidence of an acute attack of the disease. The great size and congestion of the left kidney mark this as especially affected during the present attack. The character of the pulse was faithfully recorded by the sphygmograph, traces of which we present, taken the last two days of life.

## BIBLIOGRAPHICAL.

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### REPORTS OF LUNATIC ASYLUMS.

We find upon our table a number of reports of hospitals for the insane, both American and foreign. We give our usual brief abstract of statistics and summary of contents.

I. VERMONT. *Thirty-Second Annual Report of the Officers of the Vermont Asylum for the Insane.* Brattleboro.

This report is for the year ending August 1, 1868. Dr. Rockwell reports the number of patients at the beginning of the year 511: admitted since 135: discharged recovered 46, improved 22, not improved 21: died 42: remaining August 1, 1868, 515.

This shows a larger number as having enjoyed the benefits of the Institution than in any former year. There is little that calls for remark in the description of treatment usual in our best institutions. Dr. Rockwell dwells upon the importance of cultivating the *self-respect* of patients as a means of more rapid improvement. Due importance is attached to out-door air and exercise for the patients, and as Vermont is chiefly an agricultural State, it has a good proportion of those qualified and accustomed to labor on the farm. There is doubtless some advantage in giving opportunities of labor to a patient in the avocation to which he has been accustomed, if it be separated from the causes or associations connected with the origin of his insanity.

II. NEW YORK. *Annual Report of the Resident Physician of the King's County Lunatic Asylum for the year ending July 31, 1868.* Brooklyn.

Dr. E. R. Chapin reports patients in asylum August 1, 1867, men 211, women 305—total 516: admitted dur-



ing the year 250: discharged recovered 91, improved 71, unimproved 16: died 56: remaining July 31, 1868, men 218, women 314—total 532.

We observe by the tables that of the patients admitted during the year 159 were foreigners and only 91 natives of this country. There were three cases of homicidal insanity admitted during the past summer, of which it is stated that "neither of them can be attributed to the use of intoxicating liquors, or to demoralization engendered by the indulgence of any vicious propensity." It may be a difficulty to decide what is best to be done with homicidal cases after recovery, but in our opinion, society has a right to provide some protection against those who are liable at any time to "homicidal impulses."

The report gives a rather remarkable account of a case traceable in a measure to the influence of "*spiritualism*." It is manifest, however, that the power of that delusive influence over the conduct of the patient, was due to the state of the system brought on by her family troubles, culminating in an attack of fever. Dr. Chapin remarks at the conclusion of this account, that "not until she was nearly well, however, would she admit that she had not been influenced, at least in some degree, by unseen agencies, but with her recovery all belief in the supernatural completely vanished. This is the usual and happy result of such cases. With recovery from an attack of insanity, mainly or partially induced by a belief in spiritualism, the subjects are pretty generally entirely and thoroughly cured of this most baneful and senseless infatuation."

The two new wings to the asylum buildings were expected to be completed in the autumn. A considerable improvement in the mode of heating has been effected by means of stacks of five feet coils covered in

with galvanized iron, suspended against the walls of the cold-air chamber directly under the flues that lead to the corridors above. A new cold air duct, 7 by 7 and 120 feet long, has been constructed under the building, at the entrance of which it is intended to place a fan.

III. CONNECTICUT. *The Fifty-Fourth Annual Report of the Officers of the Retreat for the Insane, at Hartford.* April, 1868.

Dr. Butler reports for the year ending March 31, 1868, the number of patients at the beginning of the year 240: admitted during the year 173: discharged recovered 72, much improved 36, improved 28, unimproved 14: died 17: remaining April 1, 246, the number of each sex being equal.

The average has been larger than ever before, and the rate of mortality less than the average for twenty-two years.

The removal of the State beneficiaries to the new State Hospital at Middletown, to take place soon after the date of this report, was expected to give the directors the opportunity they have long desired of remodelling and improving the Institution. The report says:

The operations of the Retreat will then revert to the original object of its founders—the providing amply for all classes of the insane—spacious and handsome accommodations for those whose tastes, habits and ability require them, with liberal arrangements for the indigent, especially for that class who having seen better days, retain amid their pecuniary reverses their full appreciation of the refinements, and of that larger measure of the comforts, not to say luxuries, of life, which have been associated with those refinements.

Dr. Butler gives a sketch of the history of the Retreat from the time of its incorporation in 1823, at which time there were in the United States only *four* other lunatic hospitals, all containing less than 200 patients.



As to the contemplated improvements, Dr. Butler says:

For the information of our friends and the public, I will here state that the Board of Directors submitted the many questions growing out of the proposition to remodel the buildings of the Retreat, to the celebrated hospital architects, Messrs. Vaux, Withers & Co., of New York, and employed them to furnish us with plans for such changes and reconstructions as they deemed advisable and within our means. The plans which they have given us propose very radical changes in the buildings, both externally and internally; they have been unanimously adopted by the Board, and contracts have been made to carry them out. The work will only embrace the centre building and the north wing this summer, leaving the south wing, which will then be vacated by our (female) State beneficiaries, till the spring of '69.

Dr. Butler has now been connected with this asylum just a quarter of a century, and the three Presidents of the Board have been thus far, Bishop Brownell, Hon. T. S. Williams, and Judge Ellsworth.

IV. MARYLAND. *Report of the President and Visitors of the Maryland Hospital for the Insane, Baltimore, for 1867.*

Dr. Fonerden reports in January, 1867, 101 patients, admitted during the year 115: total 216, of which 50 were cases of *mania a potu*: discharged as recovered, including 45 of the inebriates, 60: improved 21, not improved 6: died 16: remaining January 1, 1868, 113, of which 52 were private patients and 61 public.

Dr. Fonerden recounts the steps taken before the war for building a new hospital at Catonsville, suspended after one wing had been constructed, and now urges the completion of that enterprise, the present accommodations for the insane of the State being entirely inadequate. In the three months previous to this report, applications from five counties had to be refused.

Dr. Fonerden uses the verbal qualification "*as re-*

covered" in speaking of the discharge of patients. On this subject he remarks:

In recording certain cases *as recovered*, it is intended to express a meaning different from that of confidently asserting without qualification that such cases are fully recovered. The expression, *as recovered*, means in this report seeming to be recovered. It was a favorite expression, and I think a proper one, used with nice discrimination by the late Dr. Bell, of the McLean Asylum. The decision respecting the recovery of an insane mind implies two preliminaries: The character of the judgment of the expert deciding; and the general ideal in his mind, by which he judges of the actual mental condition of a particular case. Experts like men in general, differ in their judgments and also in their ideals. Cases regarded as examples of recovery by one, would not be so regarded by another after a critical examination of them; and a strict critic will affirm that insanity is never an entity that can be taken away from the mind, without leaving a vestige.

V. KANSAS. *Second Annual Report of the Trustees of the Kansas State Hospital for the Insane.* Ossawottomie.

This Institution was opened November 1, 1866. This report of Dr. Ganse, is dated November 20th of the same year. About \$3,500 had been expended in repairs on the building. The legislature is asked for an appropriation of about \$7,000 to put the Institution in full operation.

Previous to the date of this report but three patients had been admitted. No particulars are given as to the capacity and character of the buildings, or their internal arrangements.

VI. NORTH CAROLINA. *Report of the Physician and Superintendent of the Insane Asylum of North Carolina, for the year ending November 1, 1868.*

Dr. Grissom reports patients in asylum November 1, 1867, as 198: received during the year 72: discharged recovered 18, improved 7, stationary 11: died 17: remaining November 1, 1868, 217, of which 9 were blacks.



The number of "pay patients" was 27: of "indigent" 190.

The Insane Asylum at Raleigh has a building with twelve wards, each containing 20 rooms. Besides attendants and employés, it thus has rooms for 204 patients, allowing one to each. Dr. Grissom states that he has been obliged to refuse 37 applications for want of room. Hence the sad picture, once so common, is still found here, of lunatics in the jails. He fears there may be as many more scattered throughout the state, unprovided for, as there are in the hospital. He urges upon the legislature the erection of a new asylum in preference to the enlargement of the old one.

VII. MASSACHUSETTS. *Eleventh Annual Report of the Board of Directors for Public Institutions of the City of Boston, for the year 1867-8.*

*Report of the Superintendent of the Boston Lunatic Hospital.*

Dr. Walker reports May 1, 1867, 174 patients: admitted during the year 78: discharged recovered 25, improved 9, not improved 14: died 25: remaining May 1, 1868, 179. The lack of this hospital seems to be sufficient room for the purposes of proper classification. We let Dr. Walker describe one of the inconvenient results of over-crowding in his own words.

Again, so crowded have been our three small wards, that in order to suitably provide for a new comer, whose mental condition would debar him from the best ward, it has frequently been found necessary to disturb a patient, whose convalescence had just begun, by a transfer from the ward where he felt at home, and at liberty to indulge in the queer, but harmless, freaks of talk and action, the yet lingering disease might prompt him to exhibit (to "deviate a little," as one of them quaintly expressed it,) to another, where the necessity for a certain degree of self-restraint, imposed by the "public opinion" of the new community, of which he found himself an unwilling member, proved too much for his weakened nerv-

ous system, and a complete relapse was the unhappy result. In not a few cases has the disease thus been unavoidably prolonged, to the continued suffering of the patients, increased expense to the community, and diminution of our ratio of recoveries, and for some, perhaps, the permanent loss of reason.

For, if it becomes necessary to place a single improper patient in the convalescent ward, because the others are full, the annoyance and confusion caused by his presence there, become irksome and unbearable, to the last degree, to the better patients, while no good, if not positive injury, results to him. Such has been our daily condition for a long time past, and patients are retained in the lower wards who should not be subjected to such associations, but who cannot be better provided for, simply because the good of the majority must govern.

Experience everywhere confirms the resolution of the Association, that "every hospital for 200 patients should have at least eight distinct wards for each sex, making sixteen classes in all."

Dr. Walker refers to the recent *exposé*, by Drs. Choate Tyler and Fisher, of the radical defects in the "farming out" system of Gheel; and adds that "the present hospital system of Europe and America is the offspring and the glory of modern civilization and science," which will not be easily surrendered by the intelligence of this day and generation.

In an appendix he gives the series of propositions agreed upon at the last meeting of the Association, as the basis for laws in the several States determining the legal relations of the insane.

VIII. MASSACHUSETTS. *Thirteenth Annual Report of the Trustees of the State Lunatic Hospital at Northampton.* October, 1868.

Dr. Earle reports patients in hospital, September 30, 1867, men 175, women 238, total 413: admitted during the year 135: received from other State hospitals and State almshouses 17: discharged recovered 36, improved 48, unimproved 17: died 43: remaining September 30, 1868, 421.



There is very little in Dr. Earle's report this year that calls for remark as specially different from preceding experience. A well-conducted hospital must present about the same details from year to year. Dr. Earle keeps the records of attendance of patients upon chapel services, lectures, entertainments, dances, &c., with an almost laborious minuteness. There is little in the department of "moral treatment" to which he has not given a faithful trial. The usual statistical tables are very full.

IX. DOMINION OF CANADA. *Report of the Medical Superintendent of the Provincial Lunatic Asylum of New Brunswick, for the year 1867.* St. John.

Dr. John Waddell, Superintendent of this Institution, reports on 31st of October, 1866, 197 patients: admitted since 114: discharged recovered 37, much improved 7, improved 25, unimproved 2: died 28: remaining November 1, 1867, 212.

Dr. Waddell makes the satisfactory statement that in the Province of New Brunswick there are "no lunatics in almshouses, jails, or any where else, with very few exceptions, out of the asylum." He advocates the partial support by each township of its own insane poor; and mentions that efforts are making to secure a plot of ground as a burial place for those who have no friends to remove their remains. He also states that the Institution is over crowded, and believing, with the majority of medical superintendents, that it would be a retrograde step to provide separate and cheaper accommodations for the chronic insane, he strongly recommends the erection of another hospital similar to the existing one, that provision may be made for the treatment and management of all classes of insane in the State alike.

In his previous report for 1866, Dr. Waddell complains of the number of cases of *delirium tremens* sent to the asylum from the vicinity, and recommends the establishment of an Inebriate Asylum for the Province, for which he quotes favorably the testimony of the institution at Binghamton.

X. *Annual Reports of the Provincial Lunatic Asylum, Toronto, for the years 1866-1867.*

Dr. Workman's report for 1866, we noticed in the JOURNAL of last July.

The report for 1867, shows 472 patients January 1, 1867: admitted during the year 109: discharged recovered 35, improved 9, unimproved 1: died 25: transferred 6: remaining January 1, 1868, 505.

It will be seen that the admissions to this institution for 1867 were much larger than for the previous year. This is due to the opening of two new hospital buildings, each of which is now occupied by 27 patients, men and women. Their isolation from the chief asylum has been found favorable in a sanatory point of view, for cases of sickness.

Dr. Workman describes these two small hospital buildings as follows:

The eastern, or female hospital, stands 200 feet from the new east wing, and the western, or male hospital, 250 feet from the new west wing. Each is 58 feet long by  $37\frac{1}{2}$  feet wide, and has a rear appendage on the north of 27 by 23 feet. They are each three stories high. The main part is occupied by twenty-seven patients, two attendants, and a cook. The patients occupy the second and third stories. In the second story are the day room, and one dormitory for nine patients. In the third story are two dormitories, each for nine patients. The ceilings are twelve feet high. The rear appendage contains, on the first story, the heating furnaces, hot-water boiler for the baths, and the servants' water-closet; and in each of the upper stories a lavatory, bath-room and water-closet. These are divided from the main building by a passage of six feet



wide, through which may play a through-and-through draft of fresh air; but the ventilating flues constructed by the architect, in all the rooms, and terminating in the furnace chimneys, are found to work so well, that no foul air can ever be felt in any portion of the house, provided attention is given to the registers in the walls, commanding the entrances into these flues. The furnace-room and the passage between it and the main building, have been made fire-proof.

The ventilation of the water-closets has been carried out on *our own* system, which is at once the cheapest, the simplest, and the most efficient in existence; but because so cheap and so simple, not likely to be adopted, unless by persons of common sense; therefore its extension will not be very rapid. It consists merely in the insertion of a three-inch lead, or galvanized iron, air-tight tube, into the soil-pipe, below the pan, and three or four inches above the surface of the water in the goose-neck trap. This air-pipe is carried to the nearest chimney with good and constant draft. It converts the water-closet pan into a *quasi* tobacco-pipe bowl, and so long as the chimney pulls, air must be drawn down into the pan; and no foul air can rise from it; for it passes off by the breathing-tube to the chimney, and were the water-closet placed in one's bed-room, instead of vitiating, it actually would tend to purify it.

The doctor's apprehensions as to the scarcity of common sense, seem to us a little indication of bilious condition, which also manifests itself in various other passages of his reports. It is rather hard measure to say, in connection with a husband's taking his wife home before she was really well, that "the experience of one fool cannot benefit another." In the annals of literary composition we do not recollect a more remarkable piece of writing than the following:

Would it not have been a public, if not also a private benefit, that this woman had remained unrecovered on her first admission, when she had given birth to only one or two children? For years past she has left the asylum merely to have another child, and to become once more insane during the nursing of it. Her periods of asylum treatment have varied between four and eight months. She has always gone home fat and in perfect bodily health, as well as in complete mental competency. She is a quiet, industrious, and

exemplary woman whilst sane; but when insane she is one of the most mischievous and troublesome patients in the whole asylum.

May it be hoped that when her period of child-bearing has passed, she will escape further attacks?

Among the discharges in 1867 were three cases that might have been called chronic, one having been in the institution over seven years and eight months; the second about six years, and the third over four years and three months.

We quite agree with the remark which Dr. Workman makes upon these cases, suggesting too that it might be well to bear such facts in mind in connection with his previous zealous arguments for Tewksbury and the Willard Asylum:

The average duration of treatment of the aggregate of the patients discharged, is of course much augmented by residences so long as the above; and those who estimate the value of professional labor by its brevity, must regard these three cases as rather discreditable, but the experienced psychologist will view them otherwise. If the average treatment in asylums were more largely increased by such recoveries, it would be still more creditable to us.

The two new wings, when finished, will admit over 200 patients. A new asylum is recommended at London, as about 500 insane will remain to be provided for. On the subject of a separate institution for each sex, we copy the unique sentence with which he concludes his report:

Separate and distinct asylums for gentlemen and ladies who have never learned to work, and whose friends prefer continuance of their insanity, from idleness, to the good chance of its removal by useful employment, may be not merely practicable, but highly desirable; for wherever idleness prevails the devil will be busy.

XI. *Annual Report of the Rockwood Lunatic Asylum.* Ontario.

This Institution, with fine buildings, capable of accommodating 300 patients, was first designed only for



insane convicts from the Penitentiary, but a bill was passed (as we understand) last spring allowing the admission of other insane into it.

Dr. Litchfield reports patients on December 31, 1866, 131: admitted 31: discharged cured or relieved 14: died 9: remaining December 31, 1867, men 110, women 29.

A new wing has just been completed for female patients, which will receive 150. Most of the female patients are of the class "dangerous to be at large;" which the law allows to be sent here as well as criminals. Arrangements have also been made to receive insane soldiers from the army, and the same thing is proposed for the naval service.

Dr. Litchfield also proposes that the temporary hospital buildings now vacated be fitted up for pay patients of the better class, many of whom are now obliged to come to the States for the requisite accommodations.

XII. *Report of the Inspector of Asylums, Prisons, &c., for the Province of Ontario, Canada, for 1867-8.*

In the report to the Lieutenant-Governor, Province of Ontario, of J. W. Langmuir, Esq., Inspector of Prisons, &c., we find reports of the Provincial Lunatic Asylum, Toronto, Dr. Joseph Workman, Superintendent, the Malden Asylum and the Orillia Branch.

Mr. Langmuir states of the Provincial Lunatic Asylum, Toronto, the report of whose Superintendent we have already noticed, that the whole of the new east wing will be ready for occupation by the end of November, 1869. The west wing was to be finished in 1870. When completed it is estimated that the two wings and the hospitals will give accommodation for 230 to 240 patients there now being 27 in each hospital—which will give a total lodgment for 650 to 700 patients in the institution.

THE MALDEN ASYLUM.—The Inspector announces that on the 20th of July, 1868, he installed Dr. Henry Landor, Superintendent, in place of Dr. Fisher, resigned. He notes grave faults in the previous management of the asylum, speaking of the buildings and the fixtures as in a very dilapidated state, and allowed to get out of repair. Several gross defects and irregularities in the domestic arrangements are also mentioned.

The inspector describes the buildings (which are frame) as being most defective and ill-arranged for asylum purposes, and unfit for the proper accommodation of the 240 patients that are crowded into it. It will occur to any one that in mitigation of Dr. Fisher's ill success it may be said the remedy for much of the evil complained of was clearly beyond his authority, and that the real cause of them might be imputed either to the neglect of duty or ignorance on the part of the Inspector himself. Dr. Landor, however, has introduced rather more vigorous administration, as doubtless Dr. Fisher himself would do if he were to succeed another under similar circumstances.

Dr. Landor's report discloses some astonishing facts as to the system or rather no-system of accounts that had been in use.

Like Dr. Workman, who has 364 applications he cannot meet, Dr. Landor complains of utter inability to receive any more of those that apply.

The statistics are given from July 1, 1867, to October 1, 1868. Number at first date 239: admitted in 15 months 31: died 14: discharged 10: eloped 2: remaining October 1, 1868, 244.

ORILLIA BRANCH LUNATIC ASYLUM.—Dr. J. Ardagh, Medical Superintendent, reports July 1, 1867, 124 patients: admitted since 4: discharged 4, eloped 1: died 5: remaining October 1, 1868, 117. Mr. Langmuir



speaks of this asylum as in excellent order and a thorough state of cleanliness; "the management all that could be desired."



*Valedictory Address delivered before the Graduated Class of the National Medical College, (Medical Department, Columbian College,) Washington, D. C., March 6, 1867. By JOHN ORDRONAUX, M. D., LLB., Professor of Physiology and Medical Jurisprudence.*

Dr. Ordronaux shows himself in this address a scholar of classic and æsthetic tastes, as well as a professional man of high-toned principle and comprehensive scientific views. There is a little over-nicety in his style which occasionally obscures the purpose of the writer, until we get, as it were, pretty well acquainted with him. We find admirably developed in the course of this address, the important distinction between a profession followed merely as an *art*, with fixed and mechanical *rules*, and the same viewed in the light of *science*, as the application of great truths inherited from the discoveries and investigations of mankind, and still requiring and open to the researches of independent thinkers and conscientious truth-loving observers.

Of course Dr. Ordronaux in his advocacy of a manly individualism, does not mean to favor a shallow empiricism, or the disparagement of the results of experience; for he who would make any further advance into the mysteries of nature, must begin his patient toil at the point where his own acquisition of the knowledge of others has placed him. At the same time, it is a great point to practice one's profession with an intelligent reference to its scientific principles, and not merely in slavish adherence to a set of rules, the reasons of which have long disappeared from the mind. We believe it was De Tocqueville who made the incisive remark that Chinese

civilization was an art, the science of which had been forgotten ages ago: and it is precisely for this reason that it is so completely stationary in all respects. So the man who goes by rule only, like the Bourbons, if he never forgets any thing, he surely never learns any thing. And it is on this principle also that we would advocate a general, liberal education, in some university, as the best preliminary qualification for entering on any professional course. Experience proves and realizes its advantages better than any *a priori* argument.

We subjoin a few passages of this very creditable address.

In entering upon the practice of medicine, you will find nothing so tempting or easy as to tread into the paths of routine, and perform a daily treadmill labor. The majority traveling in that highway, you will never want sympathy nor companionship, and as among that majority you will find many who are esteemed distinguished, you will have an additional stimulus and incentive to follow them. It is so easy to believe we are doing well, because we are simply following the majority and basking in the sunshine of custom, that it requires a change in the self-consciousness, akin to regeneration, to perceive the gross error which we may be committing. If you look at your profession simply as an art, then the more closely you follow routine the better. If you look at it in the higher and nobler aspect of a science, then you will feel that your life-duty is to advance its usefulness, regardless of personal advantages, so that not only medicine, but the world, may be the better for your having lived in it. Think what would have been the consequences to the world if Harvey or Ambroise Paré, or Vesalius, or Jenner, or Laennec, or Bichat, or Marshall Hall, had been mere routinists? Think of the medicine of the Chinese, the Hindoos, or the Japanese, which still stands precisely where it stood when Europe was but half civilized, and Gaul and Britain were still practicing the mystic rites of Druidical worship! Routine is ever the refuge of little minds. It is that form of conservatism which mistakes a *rule* for a principle, and uses the argument of infancy against the development of manhood. It would check God's system of creation, by destroying those laws of analogy which are the prefigurations of higher types in the physical and spiritual world. Routine is only



another name for fanaticism in experience. When the Turkish Sultan burned the incomparable library at Alexandria, he is said to have remarked, in justification, that, if it contained more than the Koran, it was blasphemous and deserved to be burnt; if it contained less than the Koran, it was useless and not worth preserving. And so, too, could Cromwell and his followers, as iconoclasts, have carried their spirit of fanaticism into the most complete execution, they would have destroyed every monument of art in Great Britain, and burnt even the sublime productions of Shakspeare.

Let me warn you against that spirit of routine which not only dwarfs individual growth, but breeds the most pestilent forms of *intolerance*. No man, in entering into a learned profession, is compelled to surrender his individual liberty of opinion touching its relations to him. He comes into it a freeman, and he alone can enslave himself. The choice is left to him—either to stand as a man and a high priest at the altar of science delivering the law as he interprets it for himself, and not as it was written by another, from a different stand-point of observation, and for application to a different occasion; or, surrendering this high prerogative, to follow rules blindly, oblivious of the fact that the principle underlying the rule is always broader than the rule itself, and therefore calculated for adaptation to variety of circumstance, while the rule only adapts itself to uniformity of circumstance. This truly is reducing a profession to the condition of an art, and putting Chinese shoes upon its feet. I know it is highly respectable to do so—it is popular to do so, and popularity sometimes means *bread*, and that is an unanswerable argument with many; but even bread may be purchased at too high a price, and there are men enough everywhere who are eating that bread of servility, which brings eternal condemnation, as well as loss of self-respect in this world. These are the dangers which beset our manhood at every stage. Each tribe has its idols—each market-place its shrine—each class its dogmas of custom, tradition, and reverence, so that, upon entering it, each new comer soon perceives on which side lie the soft seats—the opportunities and emoluments, the places of trust and honor, and the sympathies of the multitude. But it is better and more honorable to be unpopular, than to surrender a principle, which the earnest convictions of your soul have forced upon you as an article of supreme belief; for, in the changes of human opinion, that which is in advance of public sentiment to-day may be far behind it to-morrow, and, ere the ashes of martyrdom are cooled, the same spot may witness the apotheosis of the newly-calendared Saint.

The difference between ancient and modern society is the difference between the influence of the person, as set opposite to the influence of the family or tribe. Men in that day were counted by series, now they are counted by individuals. It is the great power accorded to the person as a separate and potential unit, which, in modern society makes it so necessary for every individual to be educated morally as well as intellectually; for, though the power of any bold, bad man is less dangerous now than formerly, yet it is to be remembered that there is still a corrupting quality in his contact which may, through time and sympathy, be communicated to others, since education without religion is too often but a sword in the hands of a madman.

It is a great privilege nevertheless to live in such an age, and to assist as it were at the birth of new ideas in medicine, in philosophy, and in social science. Every new laborer admitted into the great arena cannot but feel that he has an individual part to play in the drama of the century. The world moves in all its parts; humanity with the promises of a millennium before it cannot recede; the clock of the ages strikes each passing hour more loudly than ever before, as if to remind us of their greater emphasis, while an under-current of feverishness pervades all human action. Even the sciences, conservative as are their systems, feel the influence of this great throb of the universe, since all great events are heralded by signs which prefigure their coming.

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## S U M M A R Y.

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MEDICAL NOTES ON THE ISLAND OF JAMAICA, is the title of an interesting pamphlet from the pen of Dr. Frederick D. Leute, of Cold Spring, N. Y.

The reader will note that the name of Dr. LENTE is accidentally misprinted Leute, in this article.



springs. We refer those who would know how much and how well he saw, to his valuable paper. Here we can only glance at some of the topics on which the author dwells.

Three mineral springs are mentioned. The hot sulphur spring at Bath, St. Thomas in the east, has long been used in rheumatic cases. It is highly impregnated with sulphuretted hydrogen, with a temperature of 117 Fahr.

In the parish of St. Ann's a remarkable spring has recently come into notice. Its minerals are all chlorides, which exist in proportions elsewhere unknown. A gallon of the water contains of the chloride of calcium, 3 1-2 ounces; of the chloride of sodium, 2 ounces; of chloride of ammonium, 1 1-2 grains. As yet little is known of its therapeutical effects, beyond the fact that fatal results have been known to follow its careless use. Dr. Leute proposes to give this water a trial in those affections for which the chlorides have been prescribed.

Dr. Leute visited New Castle. There on a mountain peak, four thousand feet high, he found a permanent encampment of one thousand British troops. This lofty elevation, however, had not secured immunity from the deadly *vomito*, which the previous year raged at Kingston, some sixteen miles away, *no quarantine having been attempted*.

Near New Castle is Clifton mount upon whose slopes is a plantation of the cinchona tree. There in vigorous growth are the *C. Calisaya*; *C. Succirubra*; *C. Officinalis*; *C. Micranthra*; and *C. Palmdiana*.

In Kingston, Dr. Leute found an old seedy-looking place. The medical men received him kindly and showed him their public institutions, which, in spite of many depressing and discouraging influences, they have

kept up and made very useful. Their principal hospital is a collection, mostly, of detached one-story buildings. The patients are negroes with a few exceptions. Syphilitic cases abound, and phthisis carries off many of the colored race and especially of the mulattoes. Among the probable causes of phthisis, the author mentions the want of animal food, exposure, the negro habit of shutting themselves closely up at night, and also of covering up the head. This fatal malady is thought to have increased since the blacks were emancipated. We can only call attention to the author's interesting remarks on idiopathic and traumatic anæmia, and on the liability to fatal attacks of tetanus, which characterizes certain localities in the United States as well as in the West Indies. Bright's disease is common in Jamaica, and increasing. Dr. Leute states that the physicians in Jamaica, as well as those in Havana look upon albumenaria in yellow fever "as a far more important symptom than we should infer from the various treatises on the subject; in fact they seem to regard it as pathognomonic."

The author was particularly interested in the hospital for lepers. He found there about forty of these wretched outcasts. This disease often makes its first appearance in blotches on the skin—spots so devoid of sensation as to be insensible to the thrust of a pin. Then the fingers and toes gradually slough off. In the meantime tubercles, completely devoid of sensation, appear on the face, and especially on ear, lip and nose. The eyebrows and eyelashes disappear. Later the disease invades the larynx, and reduces the voice to a hoarse whisper, or renders it harsh and raucous.

Dr. Leute's account of the mental phenomena and the dangerous proclivities manifested in this disease, and the precautionary measures taken to guard against the latter, will be read with interest. He remarks:



But, unfortunately, it is not alone this extreme of physical ugliness which brands the sufferer as an outcast. By this time, or before, his mind has also undergone a change, in some cases, not less marked than that of his body. His temper has become soured, his sense of right and wrong blurred or lost. He is disposed to complain of every body and of every thing; he is subject to sudden impulses; at one time meeting a patron or benefactor with smiles and seeming gratitude; anon, rushing on him with fierce anger. Their hopeless condition, of which they are well aware, the gradual, slow, but inevitable creeping on of this terrible malady, with its loathsome footprints, renders them reckless of life, and impels them not unfrequently to the commission of murder.\*

On the very day previous to my visit to the hospital, one of the patients had been sent to prison for six months for an attack with a club on the matron. In the female wards, up stairs, two of the patients, with all that might have been attractive in the female face long since obliterated, *distorted* rather, by the fell disease, with fingers and toes partially destroyed, and voices smothered to a harsh whisper by laryngeal deposits, complained to the physicians, during our visit, that the night before the wretches below stairs had forced the door, and attempted violence.†

In the very extensive and accurate accounts of this disease, from every part of the world where it prevails, as given in the recent "Report on Leprosy," by the Royal College of Physicians of London, to the Secretary of State for the Colonies, I have met with but little allusion to this mental condition of the lepers, except from one of the reporters, Dr. Bowerbank, of Jamaica. He also pointed out to me another singular symptom, which I have not seen noticed, the almost invariable existence of buboes below Poupart's ligament. He has repeatedly represented to the Governor the existence of these dangerous mental complications, and

\* A similar morbid mental condition exists among the Havana lepers, but, owing to the better arrangements which so superior an institution allows, the strictness with which they are watched, and the first dangerous manifestations punished, it has never been allowed to get beyond safe bounds. It is there noticed that those only slightly affected, as, for instance, only with contraction and rigidity of the finger joints, are more reckless and indifferent than worse cases.

† It has already been noted that, in the Havana asylum, the females are kept in dormitories, instead of separate rooms, and locked in; and not allowed access to the streets. This has been found necessary in consequence of the apparently increased development of the sexual appetite. One poor woman I saw confined to a separate room day and night, in consequence of what is there termed *furor uterine*.

the necessity of providing some especial place of confinement, and granting permission to imprison and punish them, as the only security against murder. It is only very lately that these wise suggestions have been acted upon; a portion of the prison has been set apart for the lepers, and I saw several in confinement there. It was through his persevering representations and exertions also, I believe, that Jamaica can now boast of a comparatively comfortable home for these miserables, and the institution is under his direction. At first, all coercion or compulsory confinement to the hospital was forbidden, but he has now secured the privilege of compelling them to remain in the house during certain prescribed hours; at certain hours they are still allowed to pursue their avocation of begging in the streets. "Latterly," he remarks in his official report, "some lepers have found it to their pecuniary advantage to frequent the thoroughfares, and to place themselves at the doors of the most frequented stores. In some instances, they have seized goods, knowing that the owners would not have them after they had been touched."

The Jamaica Lunatic Asylum is under the efficient superintendence of Dr. Thomas Allen, whose "energy, ingenuity, and perseverance" elicit high commendation. In this institution the "dry-earth system" of sewage has been tried with great thoroughness and entire success. "One great source of trouble and expense," says Dr. Leute, "especially where there is no head of water, is the arrangement of suitable water-closets, and the constant supervision and expensive repair which they require. Dr. Allen has obviated the whole difficulty, in the case of his establishment, and not only gets rid of excrementitious matters by a very simple method, but actually makes it a source of no inconsiderable profit." The old drains, which had become not only very offensive, but an unquestionable source of disease and death, were closed. Dry earth is used not only in the closets, but at the bedside. The whole apparatus for this purpose is extremely simple and inexpensive, and the results are perfectly satisfactory. The system has also been introduced into the General Hospital



at Kingston, with effects equally beneficial. Dr. Leute is of opinion that this method of managing all excrementitious substances is destined to become widely useful. In great cities it may not be readily available, but for private houses in the village and in the country it is well adapted. Dr. Leute quotes from a late number of the *London Lancet* in regard to the successful operation of the "dry-earth system" in British India, where it is already thoroughly established in hospitals, lunatic asylums, and gaols. Dr. Monatt, Inspector-General of Gaols for that country, pronounces its introduction to be "without exception the greatest public benefit conferred by a private individual in a matter so essential to public health, that he is acquainted with."

In regard to Dr. Allen's management of his insane patients, in respect of restraint, of bathing, and of occupation, we have here some interesting details, for which, and for much more, we must refer the reader to Dr. Leute's valuable paper.

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HUDSON RIVER INSANE HOSPITAL.—POUGHKEEPSIE, December 24.—On Tuesday last, for the first time, the flag was raised upon one wing of the Hudson River State Insane Hospital, in honor of the annual visit of the Board of Managers, comprising the following gentlemen: Hon. Abiah Palmer, President of the Board; Jas. H. Weeks, Secretary and Treasurer; Hon. Wm. Kelly, of Rhinebeck; Dr. T. R. Agnew, of New York city; Mayor Clark, of Newburgh; Cornelius DuBois, Dr. Beadle and Dr. Benedict, of Brooklyn. General Howland, of Matteawan, also one of the Board, is absent in Europe. Judge Parker was also absent. The managers, on their arrival at the office of the institution, were kindly received by Dr. J. M. Cleveland, Medical Superintendent, and Samuel D. Backus, Resident Engineer and Architect, and by them escorted to Dr. Cleveland's cottage, where dinner was partaken of; after which they made the tour of the buildings.

HISTORY OF THE INSTITUTION.—The first legislation for the erection of the hospital occurred in 1865, when Commissioners were

appointed to select a site for it somewhere on the Hudson River. The Commissioners were Mr. Madden, of Orange, Mr. Faulkner, Mr. Palmer, of Dutchess, Dr. Cleveland, of Utica, and Mr. Kenyon, of Ulster. After careful consideration, the site was selected near this city, the grounds comprising the James Roosevelt and Wm. A. Davis's property, which were purchased by Dutchess county for eighty thousand dollars, and presented to the State for the purpose named. Since then an additional purchase of eighty acres has been made by the State. The whole estate now covers a little over three hundred acres. It has a front of a little over two thousand feet on the river, and extends nearly a mile and a half toward the east, and is crossed by the Hudson River Railroad and old Albany turnpike.

The grade line of the building site is one hundred and eighty feet higher than the river, situated half a mile from the river, and the land slopes off in every direction from it. The views from the building will cover the full extent of the river for a distance of not less than eighteen or twenty miles, the eye taking in the Catskills, the Highlands and the spires of adjacent cities and villages. In the winter following the adoption of the site by the Legislature, a law was passed organizing the institution, and the Governor appointed the present Board of Managers. Dr. Cleveland, formerly of the Utica Asylum, was appointed Medical Superintendent, and the designs were procured from Vaux, Withers & Co., New York City. An appropriation of one hundred thousand dollars was then made for the erection of the building. The plans were approved by the State officers, and another appropriation of one hundred thousand dollars was made last winter.

THE PLANS.—The plans comprise a centre building for administrative purposes, with a chapel, engine and machine rooms, shops, &c., arranged about two courts, and with two wings extending toward the north and south, the former for female, the latter for male patients, each of them comprising three longitudinal and two transverse sections arranged *en echelon*. The whole extent in a direct line from the extremity of one wing to that of the other is about fifteen hundred feet, while each wing recedes toward the east five hundred feet from the centre building, so that the length of halls on each floor necessary to be traversed in a journey from one end to the other, will be more than half a mile. Provision is made for the accommodation, with reference to the cure of patients, in the most liberal manner recommended by the medical officers of such hospitals, and all the latest improvements are adopted with



reference to the preparation and distribution of food, heating, ventilation, bathing, exercise, amusements, &c., &c. Many features original with this institution will be introduced.

The style of the exterior of the building is in Italian Gothic, the walls being built of red Croton brick, the basement being of blue stone, with belts of light Ohio sandstone, and window trimmings of the same material, interspersed with deep bluestone from the foot of the Catskills. The roof, which is broken and picturesque in outline, and formed with high, steep slopes, will be slated with the black Susquehanna slate.

**PROGRESS OF THE WORK.**—The work already completed comprises a fine dock on the river, one hundred feet square, with a large derrick for lifting stone. A road leads from thence to the building site crossing over the Hudson River Railroad by a heavy truss bridge, three hundred feet in length and twenty feet in height. A large portion of this road is built of stone, and constructed in the same manner as those in Central Park, all with a grade of six feet to the hundred, so that the heaviest loads of stone are easily drawn to the building with two horses. Good roads have also been constructed to the quarry, half a mile east of the building, where all the rough stone of the building has been procured. One section of the building, two hundred and thirty-five feet in length, has been inclosed so that it can be ready for the accommodation of forty patients next Spring. The walls are all laid in cement mortar without lime, all the materials being of the best.

The entire work thus far has been performed by men employed by the day without the intervention of contractors, and materials have been purchased of producers at the lowest rates. On the premises there are a steam engine and boiler of about thirty horse power, with wood work, machinery and outfits of the most approved styles; shops for iron working, making iron sash, iron window guards and stairs, &c. There is also a stone shop for cutting stone, and steam machines for sawing it.

The place is supplied with water temporarily, by hydraulic rams, for building purposes. The building has cost thus far, for materials and work entering into its actual construction, one hundred and two thousand, seven hundred and twenty-eight dollars, and one cent. There have been expended for shops, machinery, tools, &c., twelve thousand, seven hundred and eighty-five dollars and forty-eight cents. For roads, wharves and bridges, fifteen thousand, three hundred dollars. During the first year of the work, fifty thousand dollars out of seventy thousand dollars used, was

distributed in the town and city of Poughkeepsie. During the past year, Poughkeepsie city and town have had over seventy thousand dollars of the money used. The surveys, plans, architect's fees, engineer's salary, &c., during the past year amounted to five thousand, twenty-eight dollars and two cents. As there is no contract this total covers not only whatever a contractor would charge, but makes a saving of at least ten per cent. An accurate account of all work is kept so that it can be easily told what the exact cost is of material, and the exact time of labor entering into any special piece of work. It has been ascertained by a comparison of the cost of things made on the place, with prices at which they were offered by people outside, that not only is material procured cheaper, but the work is also done cheaper, than it could be performed by ordinary contractors.

The Board of Managers have acted on the belief that the Commissioners appointed to select a site for the hospital, reflected the opinion of the Legislature when, in their report, they said that the hospital, in its structure and arrangements, should have every feature of convenience and utility that experience has elsewhere approved. It must be ample to meet the exigencies of a vast population, and it should be built on a scale of thoroughness and completeness commensurate with the immense resources and unquestioned liberality of the greatest State in the Union; and the managers cannot doubt that the "virtual pledge" given in organizing the Constitution will be met, and the means granted to carry on to completion this great and beneficent charity, with all the rapidity consistent with safety and the urgent wants of those who are waiting for its doors to be opened to them, that they may receive that care, attention and treatment which shall lift the dark clouds from their minds and restore them to home, friends, society and usefulness.—*Corres. N. Y. Times.*

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OBITUARY.—With great heaviness of heart we record the death of one who for years had stood the acknowledged head of psychological medicine in both hemispheres. Griesinger is no more. In the spring we received a letter from him which conveyed the gratifying intelligence of an intended visit to this country sometime during the fall of this year.

We subsequently learned of his illness, but no apprehensions of danger were expressed, and we trusted the



indisposition was but temporary; but while awaiting in pleasing expectation the personal presence among us of this great and good man, and hoping at any time to be called upon to rise up and do him honor, the sad intelligence is brought of his death, at Berlin, on the 26th of October last, aged 51 years.

Only fifty-one years, and so much done for science! What a lesson and example to all who labor in the same field he cultivated with so much honor and success. But from his labors he has passed calmly into his everlasting rest; and though we shall never look upon his face in the flesh, as we fondly hoped, may the spirit which he manifested while on earth, and which shone so conspicuously in all his words and works, abide with us all until called upon to follow him. He died of iliac abscess and diphtheritic paralysis. At present we cannot notice in detail the great work that he accomplished, but hope to do so in our next issue.

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BURNING OF THE OHIO STATE LUNATIC ASYLUM.—At a few minutes before 10 o'clock on Wednesday night, a fire broke out in the north end of the east wing of the Central Ohio Lunatic Asylum, and the entire building is now destroyed. The fire department was promptly on hand; but owing to an insufficiency in the supply of water, was unable to arrest the progress of the flames. The wing where the fire originated was occupied by women, six of whom were suffocated before aid could reach them. The other patients were taken to the hospital on the Asylum grounds, and to various public institutions, where they will be properly cared for. None of the men were injured. Nearly all the furniture in the main building and the west wing was saved, but much of it in a damaged condition. A portion of that in the east wing was also taken out. The loss to the State will be about eight hundred thousand dollars. The institution contained about three hundred and fifty patients.—*Cin. Gaz.* 19th Nov., 1868.

AMERICAN  
JOURNAL OF INSANITY,  
FOR APRIL, 1869.

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CH. BOUCHARD ON SECONDARY DEGENERATIONS OF THE SPINAL CORD.

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*(Continued from January Number.)*

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OF THE PROXIMATE CAUSE OF SECONDARY DEGENERATIONS.

We have already demonstrated that inflammation plays no part in the production of secondary degenerations of the white fibres of the cord; it only supervenes consecutively, if we may give the name of inflammation to that slow production of connective tissue which produces, so to speak, the cicatrization of the degenerated column. We have established the fact that the first alteration affects the nerve tubes which undergo a granulo-fatty transformation analogous to that which has been observed in the peripheral portion of divided nerves. We have shown the analogy of this destruction of the nervous elements of the cord with that which is observed in cerebral softening from vascular obstruction, and we can now affirm the identity of the destructive process in secondary degenerations, and in degenerations of the nervous centres depending on arrest of the arterial circulation. In both cases there are found, after the first few days, granular bodies and a great abundance of fatty molecular granulations; the origin of these elements appears to be, in the softening as well as in the secondary degenerations, a destructive alteration of the



nerve tubes. Some months since, I had an opportunity of observing with M. Charcot, in two cases of recent cerebral softening, the granulo-fatty infiltration of the cylinders of myeline of several tubes taken from the very seat of the softening, and presenting the same characters as those which I had been able to find at the commencement of secondary degenerations. But, when it is the result of a loss of the supply of blood, this destructive process seems to progress with more rapidity; it is for this reason that MM. Prevost and Cotard\* have, in their experiments, been able to find numerous fatty granulations thirty-seven hours, and granular bodies three days, after the obliteration of a cerebral artery. They have also seen an atheromatous condition of the capillaries developed in points where they artificially produced a softening by cutting off the supply of blood. I have recognized in man, in a certain number of softenings from arterial obliteration, that this atheromatous condition of the capillaries is, as in secondary degenerations, only an atheromatous appearance; the fatty granulations are, outside of the proper wall of the vessel, accumulated between that membrane and the lymphatic sheath. Finally, as the last analogy, let us state that, in softening from a defective supply of blood, as well as in secondary degenerations, a proliferation of connective tissue usually follows the destruction of the nervous elements, in that period of cicatrization of which M. Durand-Fardel has given so excellent a description.

Thus the same disturbance of nutrition producing a necrobiotic destruction of nerve tubes may be produced under the influence of two different causes, the loss of the supply of blood and the loss of nutritive action.

\* Société de biologie, janvier, 1866. (Gaz. Méd. de Paris, 1866, *passim*.)

By the loss of nutritive action, we understand the cessation of the influence which the elements of the gray substance exercise on the nutrition of the nerve tubes, thus admitting the conclusions to which his experiments on the degenerations of the nerves have conducted A. Waller. We know that according to this physiologist, each tube of the peripheral nerves has at one of its extremities a nervous cell, which, independently of its special properties of innervation, has the function of presiding over the nutrition of the nerve tube which departs from it, and even of contributing by a peculiar influence to the reproduction of this tube, when it becomes degenerated at some point of its course.\* These cells Waller has designated under the name of *neurogénotrophes*; we now call them more simply *cellules-trophiques*, (nutritive cells.)

I cannot here refrain from examining an opinion which would tend to throw doubt upon the existence of these nutritive cells, or rather to deny the nutritive action which the nervous cells can exert upon the nerve tubes which arise from them. Under this hypothesis, the fatty degeneration of the nerve tubes could only be attributed to functional inertia. Reciprocally, if we admit that functional inactivity is capable of producing degeneration of nerve fibres, it is useless to accord to the central

\* We should perhaps say with more precision at this time, that the centres exert a certain influence on the restoration and not on the regeneration of nerve tubes. It seems to result from the researches of M. Schiff, and of MM. Philipeaux and Vulpian, that the return of the functions of a divided nerve is produced, not by the production of new tubes in the midst of the débris of the degenerated tubes, as Waller thought, but rather by the reforming of the white substance of Schwann in the sheath of old tubes, around the axis-cylinder which, according to the same experiments, may remain for a long time, notwithstanding that it undergoes alterations which we are far from understanding.



elements any influence whatever upon the nutrition of the tubes; this property would be superfluous, and for the cord, would cease to be demonstrable. Let us consider, then, whether the facts known up to this day permit us to admit that the nerve tubes can degenerate from the sole fact of functional inactivity.

If we cut a mixed nerve, the central extremity remains healthy; on the contrary the peripheral end degenerates, and the alteration implicates all the fibres, sensor and motor. If we consider only the motor fibres, the degeneration affects in truth only the trunk of those fibres, which no longer receives any impulse from the brain or the cord, which are consequently in a state of functional inactivity. It is the same when we divide the anterior roots; the extremity attached to the cord, and which receives from it motor excitation, remains healthy; the peripheral extremity, which no longer participates in this excitation, degenerates. Thus far nothing proves that the functional inactivity may not be the cause of the degeneration.

In the section of a mixed nerve, we have said, all the fibres, and in particular the sensitive fibres, degenerate in the peripheral end; nevertheless, in this portion separated from the centre, they continue to undergo the excitations of contact, of temperature, &c.; they receive impressions which they cannot transmit to the centres; but the proper activity of the nerve tubes is put in play, notwithstanding which these tubes degenerate. On the contrary, the central end, which is certainly removed from all peripheral excitation, which is in the most complete functional inactivity, remains healthy. Now make a section in the middle of the posterior roots, and the degeneration affects the central extremity, the one which is attached to the cord, and which is in functional inactivity, and is entirely absent in the peri-

pheral extremity which is in connection with the intervertebral ganglion, and which continues to receive external excitations. Thus, of the sensor fibres, the degeneration attacks sometimes those which are in functional inactivity, and sometimes those whose physiological activity continues to be provoked, and *vice versa*. The functional inactivity then exercises no influence over the degeneration of sensor fibres. The degeneration affects only those portions which have lost their relations with the ganglia of the posterior roots, the central or medullary extremity of the posterior roots, and the peripheral ends of nerves.

The condition of integrity of a sensor fibre is therefore neither in the fibre itself, nor in its peripheral extremity which receives the excitations, nor in the cord: it is in the intervertebral ganglion, or, according to the opinion of M. Schiff, near this ganglion.

If the functional inactivity is without influence upon the degeneration or the integrity of the sensor fibres, we may, without pushing the analogy, admit that it is the same for the motor fibres. We then have the right to state that the condition of integrity of a motor fibre is in the cord.

For ease of expression, we may translate these two propositions in the following manner: in nerves, the motor fibres have their nutritive cells in the cord, the sensor fibres have their nutritive cells in the ganglia of the posterior roots.\*

If the integrity of the tubes of the peripheral nerves is due to the nutritive centres and not to the alternations

\* This word nutritive cells expresses more than our actual knowledge allows us to affirm, and perhaps it would be preferable to speak only of the nutritive elements, or still better of the nutritive centres. It is not demonstrated, in fact, that all the nerve tubes owe to their connection with a nerve cell all the nutritive activity necessary to the integrity of their structure. As regards the posterior



of activity and repose, we are right in supposing that it is the same for the tubes of the cord, and that the degenerations which we have studied are due, not to the functional inactivity, but to the suppression of the action of the nutritive elements. Here experimental demonstration is impossible. In truth, in the cord, contrary to that which we have seen for the sensor fibres of the peripheral nerves, the degeneration of the tubes is produced always in the direction of their physiological activity. The antero-lateral columns, which conduct centrifugal excitations, degenerate below the point injured, that is to say, in the portion which is no longer excited; the posterior columns, whose conductivity is centripetal, alter above the point injured, in the portion which is thus reduced to functional inactivity.

But, to place a column of the cord in a state of inaction, it is not necessary to produce a lesion of the column itself; we equally produce a functional inactivity of the fibres of the cord having a centripetal current, by destroying in the peripheral nerves the elements which connect mediately with them. This experiment is realized in amputations. Now, never, as a result of an amputation of the thigh, which nevertheless places in the most absolute inactivity all the fibres which were intended to transmit to the cord, and thence to the brain, the excitations coming from the lower limb, never, I say, has a degeneration been found of the posterior part of the lumbar enlargement, nor of any point of the posterior columns. This observation has already been made by L. Türck. In these cases, the fibres which remain inactive during long years preserve the integrity

roots, in particular, all of whose fibres have their nutritive centre in the intervertebral ganglia, it is well established that a certain number of these fibres only traverse the ganglion without contracting any relation with the bipolar cells.

of their structure, because they have not lost their connection with their nutritive cells.

We can conclude then from all this discussion, that in the cord as in the nerves, the nerve tubes are placed under the dependence of the nutritive elements. The direction in which the degeneration will be produced, as a result of a lesion of a column, will indicate to us at which extremity of the tubes the nutritive elements are situated. We are now in a condition to draw from the facts just studied some conclusions relative to the normal structure of the spinal cord.

#### ANATOMICAL DEDUCTIONS.

In the secondary degenerations which follow primary lesions of the brain, of the cord, and of the spinal roots, the extent, form, situation and course of these degenerations indicate in the most exact manner the normal distribution of the nerve fibres which have been destroyed at the point primarily injured; and permit us also to study very exactly the intimate structure of the white columns of the spinal cord, their origins and their terminations, where the scalpel and the microscope could only after great labor afford results less precise, often even very uncertain. L. Türck, first, sought to draw from the anatomo-pathological facts which he observed some deductions relative to normal anatomy; but he is rather anxious to deduce from it, by an interpretation which I do not think sufficiently strict, the direction of the physiological conductibility of different fasciculi of the cord. M. Gubler\* also understood all the advantage that normal anatomy could derive from these facts, when he said in one of the conclusions of his memoir: "Thus the lines of softening in both directions

\* Du ramollissement cérébral atrophique, (Arch. Gen. de Méd., 1859, t. 11, 6e conclusion.)



(ascending and descending) studied by attentive observers, will serve to determine the situation and the arrangement of the sensor and motor fibres in the columns as well as in the nervous centres. Here pathology will still afford light to anatomy and to physiology." Besides, this method is not new: it is only the application to the cord of a process employed by Waller in the study of the peripheral nerves, and which he himself designated under the name of a "new method for the anatomical investigation of the nervous system." It is by this method that we have been able to study the distribution and anastomosing filaments of the nerves. I think I may say that there would be every advantage in artificially producing secondary degenerations of the spinal cord, so as to make an experimental application of the Wallerian method to the cord.

We have already seen that lesions of different parts, and even of parts very high up in the brain, determine secondary degenerations which can be traced throughout the whole length of the spinal cord: these degenerations also exist exclusively in the antero-lateral columns. We may therefore conclude that there are tubes in the whole extent of these columns which have their nutritive cells in different parts of the brain. On the other hand, the descending degenerations diminish in intensity as they depart from the bulb; then the cerebral tubes which are prolonged into the cord have not all the same destination, but leave, in their course, the antero-lateral columns, so that only a very restricted number of them remain at the inferior portion of these columns. These fibres which abandon the antero-lateral columns do not escape by the roots; for in no case of secondary degeneration has an alteration of the spinal roots been noticed; we are then obliged to admit that they pass into and terminate in the gray substance.

The descending degenerations from lesions of the brain are not disseminated throughout the whole substance of the antero-lateral columns; they sometimes affect the internal portion of the anterior column on the same side as the primitive lesion, and this alteration of the anterior column disappears in the dorsal region; on the other hand, they always affect the posterior portion of the lateral column of the opposite side, and the degeneration continues as far as the inferior extremity of the cord. We conclude that the decussation of the pyramids is not complete; that some fibres, those of the external portion, which more rarely becomes degenerated, gain the internal portion of the anterior column, applying itself to the anterior sulcus, losing itself from point to point in the gray substance, and that the longest of these cerebral fibres do not go further than the middle of the dorsal region. This collection of fibres which the brain sends to the cord without decussation, and which is situated at the internal part of the anterior column, we will call the direct or internal cerebral fasciculus. As a second conclusion, we may state that the great majority of fibres which the brain sends to the cord decussate below the pyramids so as to become located at the posterior part of the lateral column of the opposite side; that they preserve this position throughout the whole of their descending course; that they insensibly become lost in the gray substance, but that some of them are sufficiently long to attain the inferior extremity of the rachidian axis. This collection of fibres which pass from the brain to the lateral column of the opposite side, we will call the decussating or external cerebral fasciculus.

We have now built up only a small part of the antero-lateral columns; the study of degenerations consecutive to primary lesions of the cord will enable us to complete



the description. We have stated that, when the cord is compressed at one point, the antero-lateral columns degenerate below the compressed portion, and that the alteration, though of but slight extent in the anterior columns, and in the anterior part of the lateral columns, is on the contrary very pronounced in the posterior and external portion of these latter fasciculi, and that in this situation it extends to the inferior extremity of the cord. Among the tubes which degenerate below the point compressed, there are some which come from the brain, and these are the ones of which we have spoken above. The direct cerebral fasciculi and the decussating cerebral fasciculi are in truth compressed at one point of their course, as is the remainder of the cord, and ought to degenerate in their inferior portion. It results from this, that at the internal part of the anterior columns, and at the posterior part of the lateral columns, the descending degeneration will implicate the fibres of encephalic origin. As it is only in this situation that there are any cerebral fibres, the degeneration of the remaining portion of the antero-lateral columns interests tubes of another class, tubes which do not come from the brain. The degeneration of these latter tubes follows a descending direction; they therefore have their nutrition cell above the point of compression. This nutritive centre is not in the brain, but it is above the point compressed; it is consequently in the gray substance of the cord above the point compressed.

There are, then, in the antero-lateral columns, independently of the fibres of encephalic origin, other descending fibres, medullary fibres proper, which arise from the gray substance of the cord itself. In order to understand the distribution of these latter fibres, we must recall, in an exact manner, the situation occupied in the cord by the fibres of encephalic origin. To render

the description less obscure, I think I should insist more particularly upon the form and position of the decussating cerebral fasciculus. The study of secondary degenerations, consecutive to primary lesions of the brain, has shown us that it is almost cylindrical, and located in the substance of the lateral column at its posterior part, in front of the line of insertion of the posterior roots, in the angle formed by the meninges and the external face of the posterior cornu. It does not come in contact with the pia mater, but is separated from it by other white fibres, in such a manner that, when it has been destroyed by secondary degeneration, the sections of the cord show at the posterior part of the lateral column a hole, as if cut with a punch, in the healthy medullary substance, a narrow band of which separates it from the meninges. In secondary degenerations from lesions of the cord itself, this hole is larger; it has increased in front and on the outside, has come in contact with the pia mater, and is thus transformed into a depression. This is because the degeneration implicates not only the fibres of encephalic origin, but also the medullary fibres proper. And as the depression which maps out the degeneration on sections of the cord, passes on towards the inferior extremity of the rachidian axis, gradually becoming narrower, we may conclude that certain medullary fibres descend, following the posterior part of the lateral columns, and become lost in the gray substance after going a long distance. We have already seen that these fibres have their superior extremity in the gray substance of the cord itself; they then establish relations between parts of the gray axis separated by quite long distances. We will designate these fibres by the name of long commissural fibres.

In compressions of the cord, the descending degener-



ation does not invade only the internal part of the anterior columns, and the posterior and external part of the lateral columns; the granular bodies are met with in the whole thickness of the antero-lateral column, but their number diminishes insensibly as we go further from the point compressed, and they disappear entirely at quite a short distance below the primary lesion. The fibres which thus degenerate through the whole substance of the antero-lateral columns, after a short descending course, are lost in the gray substance of the cord. They do not come from the brain, but they have their nutritive cell above the point of compression; they then arise from the gray substance of the cord, in which they also terminate at a short distance below their origin. I will denominate them the short commissural fibres.

Still this is not all: we have seen that in compressions which act upon the cord above the middle of the dorsal region a slight ascending degeneration of the posterior part of the lateral columns is observed; that this degeneration pursues its course in the restiform bodies, and even in the inferior peduncles of the cerebellum. We must therefore admit that this posterior part of the lateral columns, where we have already admitted the existence of two kinds of descending fibres, encephalic and medullary, contains also fibres of a third class, but in very small numbers: these should be fibres which have their nutritive cell at their inferior extremity. This nutritive cell we can only suppose to be in two points; either in the gray substance of the cord, or in the ganglia of the posterior roots. But we have seen that lesions of the posterior roots, which suppress the nutritive action of the ganglia for the cord, do not determine ascending degenerations of the lateral columns; we should then admit that the gray substance of the

cord sends along the posterior part of the lateral columns some fibres which reach the cerebellum by the restiform bodies and the inferior cerebellar peduncles. In several cases of secondary degenerations, a vain search has been made for the trace of tubes which should go from the restiform bodies, across the deep portion of the pons, in the direction of the optic thalami.

In conclusion, the antero-lateral columns enclose encephalic fibres disposed in two fasciculi, at each extremity, at the internal part of the anterior column and at the posterior part of the lateral column. Besides, they are for the most part formed by descending medullary fibres proper, which establish relations between the different levels of the gray substance, commissural fibres, quite short in the anterior columns and in the anterior part of the lateral columns, much longer in the posterior part of these same columns. Finally, there exists also in this posterior portion of the white anterior substance of the cord, some ascending fibres which establish relations between the rachidian axis and the cerebellum.

L. Türck, to whom belongs the discovery of ascending degenerations of the lateral columns, concluded from this that these columns contained in their posterior portion, fibres with a centrifugal and fibres with a centripetal current. It is possible that the lateral columns may conduct centripetal impressions: certain physiological facts, upon which I may not insist, would tend indeed to make us think so. However this may be, this opinion cannot be legitimately deduced from the examination of secondary degenerations. We can affirm only one thing, which is that some of the fibres of the lateral columns have their nutritive centres at their superior, and some at their inferior, extremity. But the degeneration of a tube is not necessarily produced in the direction of its physiological conductivity: thus



the sensor fibres of the peripheral nerves, the functional activity of which is exerted in the centripetal direction, have their nutritive elements at the superior extremity; so that the nutritive influence acts in an inverse direction to the physiological conductivity.

Let us now say a few words about the origin of the anterior roots, before passing to the study of the posterior columns. An experiment of Waller, already mentioned, proves that these roots have their nutritive centre in the cord. We have seen elsewhere that in compressions of the cord the anterior roots never degenerate either above or below the point primarily injured; from this we may conclude that they arise from the gray substance at a point very near their emergence, and that they run only a very short course along the antero-lateral column.

The constitution of the posterior columns seems to be less complex than that of the antero-lateral columns; but, in fact, their degenerations are not so completely known. From the special point of view which we take in this research, we can obtain our information from only two sources: from the study of compressions of the cord, and from that of the lesions of the roots.

Waller, in his experiments upon division of the posterior roots, had already remarked that, while the end attached to the ganglion remained healthy, the medullary end degenerated; and that "this disorganization could be traced for a short distance in the fibres of the posterior column of the cord, in the ascending direction."\* Independently of these fibres, which are at once, or after a short course, lost in the gray substance, the posterior roots send others which pass through the columns for a much greater distance, and which are de-

\* A. Waller, *Nouvelle méthode anatomique pour l'investigation du système nerveux*: Bonn, 1852. Appendice: 8e conclusion.

monstrated in the case of compression of the cauda equina, which we have borrowed from M. Cornil. In this case, there was an ascending degeneration of the whole length of the posterior columns, and the alteration, very pronounced in the lumbar enlargement, gradually diminished in intensity so as to terminate in a narrow band, spread out under the meninges at the superior portion of the posterior pyramids. There are then some fibres which pass from the posterior roots of the lower part of the cord along the posterior columns, and are lost from point to point in the gray substance, some of them terminating only at the floor of the fourth ventricle. These fibres represent only a small part of those which the posterior roots bring to the cord; the remainder pass at once into the gray substance without aiding in the formation of the posterior columns. This fact is plainly established by microscopic anatomy and by physiology, but could not have been deduced from the study of secondary degenerations.

The ascending radical fibres which we have just pointed out, do not by themselves alone constitute the posterior columns. In fact, in this case of ascending degeneration from compression of the posterior roots, a section of the cord made at the lumbar enlargement, at a point where it had not yet received any healthy posterior root, showed, upon the section of the posterior column, quite a large number of tubes, disseminated through the midst of the sclerosed mass, which had taken the place of the radical fibres. These new tubes did not come from the roots; they did not have their nutritive cell at their superior extremity, since we know that compressions of the cord do not determine a descending degeneration in the posterior columns: we must then admit that they had their origin in the gray substance of the inferior part of the cord.



The same may be said of other ascending fibres originating at different levels of the cord. We can demonstrate this proposition by comparing the form of the ascending degeneration in cases of compression of the roots, and in that of compression of the cord itself. When the degeneration is consecutive to a lesion of the roots, it is mapped out on the sections by a part of an ellipse, the convexity of the curve being in front; and, its two extremities resting on the posterior aspect of the cord, the tissue external to this line is perfectly healthy. When there is compression of the cord itself, these ascending radical fibres are injured at one point of their course and degenerate above the seat of compression; but the figure which the degeneration presents, upon sections of the cord, is no longer the same. In place of a segment of an ellipse, we have a triangle, the base of which is on the posterior face of the cord and the apex towards the commissure. This is because the degeneration also implicates other fibres which have their nutritive centre at their inferior extremity in the gray substance of the cord. These are the medullary fibres proper, like those which we have pointed out in the antero-lateral columns. In a case of compression of the cord above the lumbar enlargement, I have seen the degeneration pass on retaining its same triangular form as far as the superior extremity of the posterior pyramids; the medullary fibres proper of the posterior columns therefore terminate in the gray substance after an ascending course of variable length. Some of them extend from the lumbar enlargement as far as the floor of the fourth ventricle. They have their origin and their termination in the gray substance; they therefore deserve the name of the posterior commissural fibres.

Ascending radical fibres and posterior commissural fibres are intimately mingled in the posterior columns

without producing any confusion in their reciprocal distribution, since the form of the degeneration differs through the whole length of the cord, according as it implicates the former or the latter.

In the two cases of degeneration from compression of the roots or from lesion of the cord, the degenerated part, as it nears the bulb, becomes more and more limited to the posterior and internal portion of the posterior columns. We may therefore conclude that all the fibres of the posterior columns tend towards the posterior and internal portion of these columns, and are there located after they have run the greater part of their course. Then they probably curve forward and outward so as to terminate in the gray substance.

The distribution which I have just indicated is only exact for the fibres which come from the lower half of the cord. Of these fibres those which are prolonged as far as the superior part of the cervical region, are all situated in the substance of the small fasciculi and of the posterior pyramids. The fibres which originate in the upper half of the cord do not appear to mingle with the preceding, so that the sensor nerves of the lower limb and those of the upper limb should remain isolated from one another, separated by the intermediate posterior furrows. Indeed, in a case of compression of the cord at the upper part of the dorsal region, L. Türck has seen the degeneration occupy the external portion of the posterior columns. Unfortunately, he did not make sections through the substance of the bulb nor that of the pons, so that the anatomo-pathological demonstration of the continuation of a part of the posterior columns through the restiform bodies, is completely wanting.

To recapitulate, the posterior columns are formed from fibres which come directly from the posterior roots,



from commissural fibres, and probably also, at the upper part, from fibres which, following the lateral portions, reach the brain by the restiform bodies where they form relations with the ascending fibres of the lateral columns.

As a conclusion from all that precedes, we state, exclusively upon a basis of pathological anatomy, that we may consider the cord as essentially constituted by a gray axis, the different parts of which can doubtless communicate with each other even in the gray substance itself, but whose relations are also established through its whole length by commissural fibres, some anterior and others posterior. This gray axis should receive at its anterior part, and throughout its whole extent, fibres which come directly from the brain, it should receive at its posterior part and throughout its whole length, fibres which come from the ganglia of the posterior roots; these latter fibres being of two classes, some, direct, plunge immediately into the gray substance, the others ascending, only get there after a longer or shorter course. Then from the gray axis two classes of fibres should be given off; some should proceed towards the brain along the posterior part of the lateral columns, and perhaps also along the external part of the posterior columns; the others should leave the cord at a point very near their origin, and should go to the periphery along the anterior roots.

Thus considered, the cord may be represented as formed of intrinsic parts, the gray axis and the anterior and posterior commissural fibres, and extrinsic parts, some afferent and others efferent. The extrinsic afferent parts should have two origins, one encephalic and the other peripheral. The extrinsic afferent parts, of encephalic origin, should only exist in the antero-lateral columns, and should establish relations of each of these

columns with the two cerebral hemispheres; with the hemisphere of the same side by the direct or internal encephalic fasciculus, and with the hemisphere of the opposite side by the decussating or external encephalic fasciculus. The extrinsic afferent parts of peripheral origin should come from the spinal ganglia by the posterior roots, and should divide into two series of fibres, some plunging directly into the gray axis, the others also arriving at the gray substance after having assisted in the formation of the posterior columns. The extrinsic efferent parts should also have two destinations: some should pass up to the encephalic destination by the anterolateral column, so as to reach the cerebellum; others, arising probably from the upper half of the gray axis, should reach the pons by the external part of the posterior columns. The others with a peripheral destination should emerge at once from the cord by the anterior roots so as to terminate in the muscles.

Thus the cord would form a necessary intermedial organ for all impressions which reach the brain from the periphery, and for all impulses which go to the periphery from the brain; no fibre would go directly from the brain to the muscles, or from the tegumentary surface to the brain.

This structure of the cord, based entirely upon pathological anatomy, is in perfect harmony with a large number of facts already established by the scalpel and by the microscope, and affords them complete confirmation; or rather, this harmony testifies in favor of the excellence of the method we have pursued.

The results at which we have arrived determine certain questions which were as yet doubtful; besides they seem to us to establish several new facts.

What we have said about the incomplete decussation of the pyramids has been known for a long time, and it



was known in what parts of the antero-lateral column the fibres, which come from the pyramids, were located; but the terminations of these fibres were not so precisely determined.

The commissural fibres of the antero-lateral columns had already been admitted by Todd and Schröder Vander Kolk; however we do not think that their distinction into two classes, according to their length and the special location of each of them, had been pointed out.

Notwithstanding the works of L. Türck, already published for some time, only very vague ideas were held about the ascending fibres of the lateral columns.

In conformity with the first opinion given by Schröder Vander Kolk, we have shown that certain fibres of the posterior roots assist a great deal in the formation of the posterior columns; but we think that M. Dean has exaggerated their importance in considering the posterior columns as exclusively formed by these roots. We have, in fact, proved that there are in these columns a large number of commissural fibres admitted by Todd, by Gratiolet, and by several other anatomists.

As regards the fibres which pass from the cord to the brain along the posterior columns, pathological anatomy has not yet given us sufficient information; however, we may say that, up to this day, other methods of investigation have not led to a greater degree of certainty: we are as yet reduced to physiological deductions.

#### SYMPTOMATOLOGY.

The clinical study of the secondary degenerations of the spinal cord has not yet been undertaken; and we may say that it was impossible to study them, when we only knew the first period of these alterations. When a nerve is destroyed at one point of its course, in such a manner as to suppress the relations of the centre with

the periphery, the function of this nerve is abolished, and if it still possesses some activity of its own, it cannot display it by any manifestation either of sensation or of movement. We understand, from this, that the substance of the injured elements may become disintegrated without there being any new symptom in the paralyzed parts. We may then state, *a priori*, that the work of degeneration which is going on in a column of the cord does not actually betray itself by any symptomatic modification. Clinical observation fully justifies this presumption. In fact, while the lateral column of the paralyzed side commences to show manifest signs of degeneration by the sixth day, following the commencement of the apopleptic attack, we do not see the symptoms present any notable changes at that period; the primary contraction which is very rare in cerebral softening, and uncommon in hemorrhage, is usually earlier, and is observed from the commencement of the symptoms, or during the first few days. In every case, this symptom, which may exceptionally appear at the period when the secondary degeneration is produced, finds its explanation in the cerebral lesions which we may, with good reason, consider as complications, and it should not be referred to the deuteropathic alteration of the spinal cord.

It is not the same for the contraction which comes on at a later period, a symptom almost necessarily consecutive to old cerebral lesions, and to which attention does not seem to us to have been sufficiently attracted. This contraction of the paralyzed parts which we almost invariably find in cases of hemiplegia of long duration, seems to us to have been wrongly referred to a chronic irritation of the brain, due to a contraction of the cicatrice of the primary seat of disease, or to the progressive march of an imaginary encephalitis. The cause of this



permanent, tardy contraction seems to us to be in the cord. Certainly we cannot refer it to the granulo-fatty alteration of the tubes, an alteration which, as we have said above, cannot reveal itself by any symptom; besides, at the time when this contraction commences, the tubes injured in the brain are already destroyed throughout their whole extent. But the tubes of encephalic origin are mingled in the cord with other tubes which arise from the gray substance of the cord itself. These medullary tubes proper are then plunged into the midst of a tissue which, after a considerable period from the commencement of apopleptic symptoms, is the seat of quite an abundant proliferation of connective tissue. It is to the irritation of the medullary tubes by this neoplastic formation, it is to this secondary sclerosis, that we think we should refer the later contraction in cases of hemiplegia.

If this hypothesis is correct, we should meet with analogous symptoms in all those diseases, whatever be their nature and their location, which are accompanied by descending degeneration, with secondary production of connective tissue in the lateral columns; and these symptoms should closely resemble those produced by primary sclerosis of these columns. We are thus led to seek what are, in these different pathological conditions, the common symptoms which can be referred to this common cause, primary or secondary sclerosis of the lateral columns.

It is principally in the modifications which supervene on the part of the motor apparatus that we shall find these symptoms common to the different diseases which are accompanied by secondary degeneration of the spinal cord. We must understand that these researches are not free from difficulties, not only on account of the complication of facts, which hinders their interpretation,

but especially because much obscurity still reigns upon this point of the symptomatology of paralyses.

Of all the modifications which the condition of the muscles may present in cases of hemiplegia, the contraction is without contradiction the most important; it is also the one which has principally attracted the attention of observers. Early or tardy, temporary or permanent, it has always been regarded as an index of an irritation going on in the nervous centres. In accordance with Lallemand and MM. Cruveilhier, Bouilland, Andral, Durand, Fardel, Todd has especially insisted upon the semiological importance of this symptom, and has made it the basis of a division of cases of hemiplegia. He admits three classes of them, according to the conditions of the muscles. In the first, the paralyzed limbs remain flaccid and relaxed; in the second there is early rigidity of these muscles, and the rigidity makes its appearance at the very moment of the apoplectic attack, or a short time after. Finally, in the third category, the majority of hemiplegic cases enter, in which the paralyzed muscles, flaccid at the commencement, are attacked at a later period, and progressively, by a rigidity which becomes permanent.

This distinction which Todd has established and so strongly insisted upon, between the early rigidity and the tardy contraction is no less important in a pathogenetic than in a clinical point of view. "If the paralysis had been accompanied by rigidity, says the English author,\* I should have been led to the conclusion that the cerebral lesion was of an irritating nature. This rigid state of the paralyzed limb (when it comes on at the same time as, or very soon after, the

\* Clinical lectures on paralysis, certain diseases of the brain, and other affections of the nervous system, by Robert Bentley Todd: lec. v. p. 100; London, 1856.



paralysis) is generally seen when some superficial part is affected, as the meninges or the surface of the brain, or when there is a growth from the skull, or a tumor in the hemispheres, or in some cases of inflammatory softening, or in some conditions keeping up a constant irritation; but when there is a simple rupture of the fibres of a deep-seated part of the brain, as the corpus striatum, with or without pressure, there is no irritation, and the paralyzed muscles are quite lax." And in another place:\* "In the majority of cases the early rigidity is due to an apoplectic clot. My idea as to its cause is, that it depends upon a state of irritation, propagated from the torn brain to the point of implantation of the nerves of the affected muscles. But, you will ask, why is it that in some cases of clot, the hemiplegia will be accompanied with complete relaxation of muscles, while in other cases the rigidity of which I have spoken exists? The answer to this question is as follows: In the cases where there is no rigidity, the clot lies in the midst of softened brain, and has not in any degree encroached upon sound brain; but when rigidity exists, the clot has extended beyond the bounds of the white softening, and has torn up, to a greater or less extent, sound brain. \* \* \* This form of hemiplegia sometimes occurs in surgical practice, in consequence of a blow on the head, with depression of bone, or from considerable hemorrhage within the cranium, such as results from injury of the middle meningeal artery, or one or more of its branches. The paralysis of the opposite side is then accompanied by rigidity. \* \* \* Sometimes inflammation of the pia mater, or arachnoid, causes an accumulation of fluid in the sub-arachnoid spaces, and then there is paralysis and rigidity. \* \* \* An affection of the

\* R. B. Todd Lectures, 10 and 11 passim.

brain, of an irritating character, may give rise to this form of hemiplegia." All these assertions of Todd are based upon observations where autopsies were made; it is with justice that he states the encephalic seat and the irritating nature of the cause of early contractions in certain hemiplegias. Besides, this opinion does not materially differ from that of French pathologists. For a long time we have considered contractions in hemiplegia as a sign of encephalitis; and, besides this too absolute belief, a certain number of facts, several of which have been long known, have led us to admit that the hemorrhage determines immediate contractions, when the seat of disease, breaking up the convolutions, reaches the meninges, or when it bursts into the cavity of the ventricles. Then, is it not to an inflammation which is developed about the seat of disease, that we should refer the muscular rigidity which comes on a few days after the apoplectic attack?

According to this opinion, which nothing now seems to contradict, the muscular rigidity would result either from the irritation of the peripheral end of the fibres lacerated by the traumatic cause, or by the hemorrhage, or by the softening, or else from the irritation of the fibres which surround the primary seat of disease, and which have preserved their integrity. According to the first hypothesis, as the lacerated fibres are destroyed after the sixth day, they should rapidly cease to be the seat of any phenomena of excitation. It would then be to these temporary contractions of the commencement that we could apply the opinion of M. Gubler\* concern-

\* Du Ramollissement cérébral atrophique (*Archives gén. de méd.*, 1859.) M. Gubler thus expresses the seventh conclusion of his *Memoir*: Clinical observation has as yet taught us nothing of the particular symptoms of secondary atrophic softenings; but we can foresee that after them we will observe a cessation of the phenomena



ing the part of atrophic softening in the cessation of phenomena of excitation, and in particular of rigidity.

If we may, strictly, consider secondary degenerations as capable of putting an end to the muscular rigidity of the commencement, they play an entirely different part with reference to the later contractions; not, I repeat, that we can consider the contraction as the symptomatic expression of the work of granulo-fatty destruction of the tubes of the cord, nor even that we can attribute to the granules resulting from this destruction the power of irritating the neighboring tubes. The muscles remain flaccid and inert while this process of atrophy is going on; they only become rigid at a later period, when the hypergenesis of nucleated elements commences to appear in the degenerated column.

The later contractions of paralyzed muscles in cases of hemiplegia, are surely those whose clinical history is most imperfect; not that they have escaped notice, but their varieties, the date of their commencement, and the deformities (often characteristic) which they produce, have as yet been only very incompletely pointed out. These contractions are, however, very frequent, and we may say that they are the rule in cases of hemiplegia of long duration. Out of thirty-two cases, the analyses of which will be given further on, I only once found the flaccid hemiplegia. I do not propose to trace out a complete study of these contractions: I will only endeavor to point out the most marked features of their history, taking as a basis the numerous facts which the clinique of the Salpêtrière can furnish.

When we examine a patient suffering from an old

of excitation, such as contraction, provided that the long duration of the primary affection has not given rise to such changes in the condition of the muscles as are opposed to the mobility of the parts.

hemiplegia, we usually see the forearm of the paralyzed side is semi-flexed upon the arm, and we are assured that this position is invariably maintained against the influence of gravity by the tension of the muscles of the anterior part of the arm. The biceps in particular, even in cases of very long duration where it has undergone a notable atrophy, makes a more or less marked prominence, and it is evident to the touch that it is stretched like a cord between its insertions. If we tell the patient to extend the arm, he succeeds with great difficulty, even in those cases where voluntary motion is not entirely lost, in increasing by a few degrees the angle formed by the arm and the forearm, and then he is usually obliged to perform this movement mechanically, by pulling upon the paralyzed hand with the member of the healthy side. If the observer himself tries to produce this movement of extension at the elbow joint, he finds a variable resistance, which in some cases cannot be overcome. Usually, however, he succeeds in extending the forearm, at least within certain limits, and he experiences during this movement the same sensations as when the limbs of a dead body in the state of rigidity are made to move. The old cases of hemiplegia, in which the articulations of the paralyzed arm are movable and loose, like those of a corpse when the rigidity has been overcome, are entirely exceptional. It is to these latter that we give the name of flaccid hemiplegias. We will regard all others as rigid, whatever may be the degree of resistance produced by the muscles, and whatever may be the number of muscles affected.

In hemiplegias of long duration, it is very rare to find all the muscles of one half the body paralyzed; it is equally rare to find voluntary motion injured to the same degree in all the affected muscles; it is also ex-



ceptional to find all the paralyzed muscles rigid. The contraction in cases of hemiplegia is never general; but it does not affect indifferently such and such a muscle, or such and such a group of muscles; on the contrary it presents a certain regularity in its determination.

I do not know that it has ever been observed in the muscles of the trunk, and it may be said to be limited to the muscles of the extremities. However, there is perhaps an exception to be made for the muscles of the face. Certain facts have led me to think that the muscles of the face, paralyzed at the time of the apoplectic attack, may afterwards undergo retraction, and produce a deviation of the features of the side of the face opposite to that where the deviation primarily existed. There are the cases in which the observations made at the commencement of the affection indicated a facial paralysis on the same side as the hemiplegia, with deviation of the features of the healthy side, and where, upon examining the patients some years later, I found that the features were, on the contrary, retracted on the same side as the paralysis, thus simulating an alternate paralysis.\* As for the muscles of the orbit and neck, the contraction of which so often turns the face and the eyes toward the side of the diseased hemisphere at the moment of the attack, we do not see that they are ever affected with a permanent contraction at a later period.†

\* See Bouchard, *Aphasie sans lésion de la troisième circonvolution frontale gauche*, dans *comptes-rendus de la Société de biologie*, p. 111, année 1864. In this observation, there was no lesion of the pons capable of explaining the alternate hemiplegia, but there was a very pronounced secondary degeneration.

† M. Vulpian has insisted upon this symptom, which M. Cruveilhier had already noticed, and M. Prevost has made it the subject of an interesting memoir: *De la Déviation conjuguguée de la face et des yeux dans les hémiplegies*. (*Gazette hebdom.*, 1865.)

Thus limited to the extremities, the muscular rigidity is not observed in the same degree in the superior and in the inferior.

It is always less marked and more limited in the pelvic than in the thoracic extremities; it may be absent in the former, while it exists to a more or less marked extent in the latter, while the reverse is not true.

Out of 31 cases of hemiplegia with rigidity, the contraction affected the muscles of the upper extremity 31 times, and the muscles of the lower extremity only 14 times. Even in the thoracic extremity, the rigidity is not always observed in all the muscles; and those which are rigid are not always so to the same extent. Thus we rarely see the shoulder elevated—10 times in 31 cases—and when it droops, which is more common—15 times in 31 cases—this result is due rather to the force of gravity than to muscular traction. We do not usually find any great difficulty in giving to the arm those different movements which the articulation of the shoulder permits; but, abduction is often quite limited. In its habitual attitude, the arm of hemiplegics is nearly always in a state of adduction, which the action of gravity is often sufficient to explain. Rarely, indeed, the arm is so strongly pressed against the thorax that it may be necessary to attribute it to the contraction of the pectoralis magnus; however, this latter cause, though very evident in some cases, should usually be associated to a certain extent with the action of gravity; for, besides abduction being impeded, the humerus is frequently—18 times out of 31—in a more or less pronounced state of rotation inward.\*

While the muscles of the regions of which I have just

\* We shall see that, out of 31 cases of rigid hemiplegia, I have 12 times seen the arm in adduction, once in abduction, and 19 times in an indifferent position.



mentioned are contracted in only a slight degree, or even not at all, the muscles of the arm, of the forearm and of the hand, are always completely or partially contracted, and, in every case, it is in those parts that the tardy rigidity is the most pronounced.

The contracted muscles, triumphing over those which are only paralyzed, produce special and permanent attitudes of the limbs; but those remarkable deformities which we find in old cases of hemiplegia, result not only from the predominant action of the paralyzed and contracted muscles over those which are attacked by flaccid paralysis; more frequently, indeed, the deformities are the result of the contraction of antagonistic groups of muscles. This is easily demonstrated for the muscles of the arm and forearm.

The joints which the contraction has placed in a fixed position communicate to the observer a notable resistance, whatever be the direction in which he tries to move them. The elbow, for example, which is usually semi-flexed in cases of hemiplegia, is sometimes as difficult to put in a condition of complete flexion as in that of extension.

Often, however, the forearm presents in both directions a very limited degree of mobility, compatible with some very restricted voluntary or communicated movements; but if we try to increase the movement, we suddenly experience the resistance which I have mentioned above. These movements which we endeavor to produce are alike painful in flexion and extension. Finally we can determine by the touch that the antagonistic muscles are equally contracted. While the biceps is stretched like a cord, we feel the triceps hard and rigid.

We might suppose that this contraction of antagonistic groups of muscles was only a spasm, a reflex con-

vulsion provoked by the pain induced by the motions which we give to the paralyzed limbs, something similar to the muscular retractions in arthritis or arthralgia. But in these cases the inhalation of chloroform suddenly puts an end to the spasm and restores their entire freedom of motion to the joints; while I have convinced myself, with M. Charcot, that this is not the case with rigid hemiplegias. Several patients having been put under the influence of chloroform, we have seen that while all the other muscles became relaxed, the contracted muscles preserved a marked rigidity, to a less degree, however, than when the patients were not under anæsthetic influence, but sufficient to prevent complete extension or flexion, and to reduce to their primary position the limbs whose attitudes had been modified. If we continued the action of chloroform for a longer time, we then saw one of the antagonistic groups yield a little to the more powerful traction of the opposing muscles, and produce a slight change in the position of the articulation; then this change once produced remained, even after the patient came out from under the influence of the anæsthetic, and the limb gradually returned to its former position, but not until several hours after the cessation of the inhalations.

The permanent vicious attitudes in hemiplegias of long duration are then for the most part the result of the opposing action of antagonistic groups of muscles contracted in a relatively greater or less degree. Hence it is that the position of the limb is generally intermediate between those which would be produced by the isolated action of these groups of muscles, more or less flexed or more or less extended, according as the contraction is stronger in the flexors or extensors. This fact is made evident by a symptom which we can produce at will in certain hemiplegics, and particularly in



those having a unilateral atrophy of the brain resulting from an affection of that organ, dating back from infancy. The usual attitude of these patients consists in a flexion of the forearm with pronation and flexion of the hand and fingers. If by force we extend the fingers, we see that at a certain point they come spontaneously and suddenly as the movement of a spring into a condition of forced extension, at the same time that the flexion increases in the radio-carpal articulation, and the limb remains in this new posture for an indefinite period. If we then induce flexion, we at first experience a certain amount of resistance, then suddenly again the flexion of the fingers is spontaneously completed, and the hand is slightly straightened; thus the primitive attitude is reproduced. Out of 14 patients in the service of M. Delasiauve, suffering from cerebral atrophy, I have observed this symptom twice, and I have found it once with M. Charcot in one of his patients who had cerebral softening dating back thirteen years.

The vicious attitudes produced by permanent contraction in hemiplegics are very variable; they are principally remarkable in the upper extremity. If we consult the table in which are noted the 31 cases of rigid hemiplegia upon which this description is based, we see, as I have said above, that the shoulder is elevated 15 times, lowered 10 times, in an indifferent position 6 times; that the arm is adducted 12 times, abducted once, in an indifferent position 18 times; that it is rotated inward 18 times, and that 13 times it does not show any tendency to rotation in either direction. We see, besides, that the elbow is flexed 27 times, extended 3 times, in an indifferent position once; that the forearm is pronated 24 times, supinated 7 times; that the hand is flexed 16 times, extended 15 times, in an indifferent position 10 times; finally that the fingers are flexed 28 times, extended 3 times.

The hand being always in a determined position of pronation or of supination, and the fingers being always either permanently flexed or extended, we may arrive at the following conclusion: that of all the muscles of the economy, those of the forearm are most often generally affected with permanent contraction in cases of hemiplegia; hence the precept that we should examine, in cases of softening or hemorrhage of the brain, dating back for some time, whether the movements of rotation which we give to the radius are equally easy in both directions, and whether the fingers can be completely straightened or flexed without difficulty.

Many of these partial attitudes which I have just pointed out are habitually grouped together and produce deformities of the whole region, the various elements of which do not appear related to one another according to invariable rules, but in which it is nevertheless possible, amid very numerous exceptions, to recognize certain general types. In order to characterize these types, we should take as a starting point the partial deformities, which are never absent, that is to say the condition of pronation or supination of the forearm, and the state of flexion or extension of the fingers. We may thus artificially create four varieties, which, according to our observations, are distributed in the following manner: out of 31 cases of rigid hemiplegia, we find 22 times pronation with flexion of the fingers, twice pronation with extension of the fingers, 6 times supination with flexion of the fingers, once supination with extension of the fingers. Adding now the condition of extension or of flexion of the articulation of the elbow, we should double the number of these varieties, but clinically we have only been able to find the six following varieties:



Flexion of the elbow, pronation and flexion of the fingers,	18	times.
“ “ “ pronation and exten. of the fingers,	2	“
“ “ “ supination and flexion of the fingers,	6	“
“ “ “ supination and exten. of the fingers,	1	“
Extension of the elbow, pronation and exten. of the fingers,	3	“
Indifferent position of the elbow, pronation and flexion of the fingers, .....	1	“

An examination of this table shows that there is no need of thus multiplying the varieties, and that for the clinique we should recognize one great type, the type of flexion characterized by the simultaneous flexion of the elbow and the fingers, or, in the absence of rigidity in the elbow joint, by the simple flexion of the fingers. We will also place in this type of flexion, the cases in which the fingers being extended the flexion of the elbow is so pronounced, that the angle formed by the arm and the forearm is less than 135 degrees.

Another type much less frequent will be characterized by the complete extension of the elbow, whatever be the condition of the fingers, or by the extension of the fingers, provided that the angle of flexion of the elbow be more than 135 degrees.

By consulting the table in which the angles of flexion of the elbow are indicated, we will see that the type of flexion is observed 26 times, while we only meet with the type of extension 5 times.

The condition of pronation or of supination of the forearm adds two varieties for each of these types: thus clinically, we may admit four forms of deviation of the upper extremity in hemiplegias with tardy contraction, and these forms are observed in the following order of frequency:

Flexion with pronation, .....	20	times.
“ “ supination, .....	6	“
Extension with pronation, .....	4	“
“ “ supination, .....	1	“

We will describe only the first form, which is by far the most frequent. In this form we have seen the shoulder lowered 9 times and elevated 7 times; in four cases only, was the shoulder of the diseased side on the same horizontal line as the other. The arm is usually drawn to the body, either by its weight, or by a slight contraction of the *pectoralis magnus*; it is in this form that we have met the only case of abduction of the arm which we have observed. In the 20 cases in which there was flexion and pronation, we have 11 times seen the hand flexed with the fingers; once the hand flexed while the fingers were extended; once the hand extended while the fingers were flexed; finally, the fingers were flexed 7 times while the hand was in an indifferent position. In the case where the flexion of the elbow was most pronounced, the angle formed by the forearm with the arm was 30 degrees.

In this form of flexion with pronation which we usually meet in hemiplegics, the arm is drawn toward the trunk, and, owing to the rotation of the humerus, the forearm is applied against the body; the hand, usually flexed as well as the fingers, is, according to the degree of flexion of the elbow, pressed against the abdomen or against the thorax, and the parts in contact vary according to the degree of pronation of the forearm. In a first degree, the hand is in contact with the trunk by its palmar surface; in the second degree, by its radial edge; in the third, by its dorsal aspect; in the latter case, the elbow is more or less carried forward.

In the type of extension, we can still find these three degrees of pronation. The third was not shown by any of the patients referred to in the table, but it was very marked in the case of a woman in the service of M. Charcot, who has recently died from an old softening.



In this woman, the left forearm was completely extended, the hand flexed at a right angle, and the fingers firmly folded up in the palm. The movement of rotation had carried the hand directly outward, the ulnar edge was in front, the radial behind, and this deformity had been increased by a rotation of the arm which had brought the olecranon directly in front. In the case of this woman, whose medulla oblongata I have shown to the Anatomical Society, the descending degeneration had advanced to an extent which we rarely find: the secondary sclerosis of the cord was visible as far as the inferior extremity of the left lateral column, and I should add that the sclerosis reached the meninges towards the middle of the dorsal region, instead of forming a little band, completely surrounded by healthy white substance. I was then too absolute in stating in a former part of this work, that no fibre of the decussating encephalic fasciculus came in contact with the pia mater. In this woman, besides, the flexion of the fingers was such, that the nails in growing cut the skin of the palmer surface. This occurrence, which is not very rare, and which has already been noticed by Todd,\* produces very painful ulcerations which secrete an infectious discharge; great care should therefore be taken of the hands and nails; it is prevented by permanently placing in the palm of the hand a roll of bandage, which is sufficiently held there by the contraction of the fingers.

I should say in conclusion of what has reference to the deformities of the hand, that when the hemiplegia commences, before the complete development of the individual, and above all in infancy, the hand which is usually flexed, instead of showing the flexed joints by sharp angles, presents on the contrary upon its dorsal

\* Loc. cit., lecture x.

portion a regularly convex surface which continues without interruption from the forearm to the last phalanges. This peculiar form is doubtless the result of an atrophy of the osseous tissue and of the articular prominences; an atrophy in which the subcutaneous cellular tissue does not participate. This character is sometimes sufficient, in the absence of any history, to distinguish a former softening in the adult from unilateral cerebral atrophy consecutive to some lesion which has destroyed a more or less considerable portion of one hemisphere during infancy.\*

I shall pass more rapidly over the tardy contraction of the lower extremity in hemiplegics, and the deformities which are its consequences. I shall only state that out of 32 cases of hemiplegia of long duration I have found muscular rigidity in the pelvic extremity only 14 times; the hip was rigid 10 times, 4 times flexed, 6 times extended. The flexion was 3 times accompanied by abduction; the extension was 4 times accompanied by abduction. The knee was found flexed 10 times; 22 times the limb was in the axis of the thigh without any appreciable rigidity. These 10 cases of flexion of the knee coincided 5 times with extension of the hip, 4 times with flexion and once with relaxation of the coxofemoral articulation. The foot was found rigid and out of its proper position 11 times, 9 times presenting the type of talipes equinus and twice that of talipes talus. Of the 9 cases of talipes equinus, 5 were accompanied by flexion of the knee. The 2 talipes talus coincided with a considerable degree of flexion in the femorotibial articulation.

\* Consult upon this subject a memoir presented by M. Cotard to the Society of Biology in 1865: Note sur quelques cas d'atrophie cérébrale; de l'attitude des membres paralysés dans cette affection.



At what period and in what manner is this tardy contraction developed in hemiplegics?

This is a question which has scarcely been proposed, and which is far from having been decided. Todd, who has distinguished so carefully between the precocious and the tardy rigidity, says that he has met with the latter one year after the apoplectic attack, and he quotes from M. Andral a case where the contraction came on three months after the commencement of the hemiplegia. We may see that in one patient, whose case is referred to in the table, the flexor muscles of the fingers were rigid at the end of four months, but in her case the rigidity had already existed for some time. We have had an opportunity, in the case of this woman, to follow the development of the disease from its commencement, and her case is interesting in more than one respect. She was suddenly attacked at the age of 66 years, with apoplexy with complete loss of consciousness and left hemiplegia, without having presented any prodromic symptoms. The following day the intelligence had entirely returned, the paralyzed muscles were flaccid and there was no fever. The temperature of the rectum varied from morning to evening between  $100^{\circ}$  and  $98.9^{\circ}$ . At the end of eight days the fever came on; the temperature went up to  $101.1^{\circ}$ ; there was excitement with delirium, and the paralyzed muscles became rigid. Two days after, the temperature came down to  $99.6^{\circ}$ ; the intelligence was restored and the muscles had become flaccid again. From this time the general symptoms disappeared, but the paralysis remained. Three weeks after the commencement of the illness the fingers were semi-flexed, but could be easily extended: however, forcible extension appeared a little painful. Two months after the attack the flexion of the fingers was more pronounced, and quite a marked resist-

ance was experienced when we tried to extend them, an operation which seemed to produce considerable pain; the forearm was slightly pronated, and resisted slightly any movements of supination which we communicated to it; it presented a very slight amount of flexion; we were able to increase this flexion without hurting the patient, but when we afterwards extended it, we observed that after having easily reduced it to its former position we experienced a sudden resistance, of such a kind that the extension could only be completed by an effort which was painful to the patient. At this time there were no cerebral symptoms and no fever.

In this case we see a precocious contraction connected, as the delirium and fever indicate, with slight symptoms of secondary encephalitis; then we see a contraction become insensibly developed, traces of which we can barely find at the end of three weeks, and which is no longer doubtful at the end of three months. It is this latter contraction, which has since increased while the cerebral functions have returned more and more to their normal condition, that we think should be referred to the sclerosis secondarily developed in the place of the degenerated fibres of the lateral column.

This case also shows that if the muscles of the forearm are the ones usually affected by tardy contraction, it commences likewise in them. This contraction comes on gradually and insensibly; this is the reason why we can hardly ever obtain from the patients information of any value concerning the time of the appearance of this symptom. They know that at first their limb did not offer any resistance to the movements communicated to it, and that at a later period it was fixed in one permanent attitude which could only be altered by a certain degree of force, but the transition between these two conditions has been so gradual that usually



it is impossible for them to tell, even approximatively, the time of the commencement of the contraction. The determination of this time is almost as difficult for the physician who is watching the development of the disease; so that he had better not give the result of his observations except after quite long intervals, the changes undergone by the muscles from day to day being entirely inappreciable. In the preceding case, the contraction was evident at the end of two months, but it already existed before this time, and I may state that, having inquired into this question of a certain number of patients, I think I may conclude from their replies that while the limb was flaccid during the first month, it already presented a vicious attitude during the third month. It would then appear that the permanent contraction habitually commences in the course of the second month. It is plain that new investigations are necessary to determine this point, as yet obscure, in the symptomatology of hemiplegias.

The contraction commences in the muscles of the forearm; generally the fingers are flexed and the forearm is pronated; then, in most cases, the elbow becomes flexed, and, while the fingers curve more and more, the flexion of the elbow progressively increases in such a manner, that for a long time the attitude of the limb is changed, showing it more every day.

I have remarked that in the patient of whom I have just spoken the straightening of the contracted parts was painful from the commencement, even when a slight effort sufficed to overcome the resistance of the muscles, and then these explorations resulted in momentarily increasing the rigidity. On the contrary, when the contraction is final, the muscles which we extend by force oppose during a considerable time the movements which we communicate to the limbs.

Sometimes, upon lifting the contracted arm of a hemiplegic by the end of the fingers, we see the entire limb agitated by a rapid trembling similar to that which we produce by the same proceeding in the inferior extremities of patients suffering from compression of the cord. I have only met with this symptom in the thoracic extremity in hemiplegia, and I think that we may consider it as an exception.

When the contraction has reached its complete development, it may notwithstanding present momentary variations in its intensity under the influence of certain circumstances, such as emotions or pains along the course of the nerves of the limb; in young women having hemiplegia, we sometimes see the contraction increase during the menstrual period.

I have already spoken of the action of chloroform upon contracted muscles; I shall also say some words of electricity. The induced currents which usually produce in the flaccid muscles of hemiplegias of short duration, slighter contractions than in the normal condition, produce on the contrary a marked and sometimes an exaggerated effect upon the muscles affected with permanent rigidity, even when they have undergone a certain amount of atrophy. But when this atrophy affects unequally the different muscles of a limb, we can see, as I have found in one case, that by applying the poles to the muscles which act against the deviation, this deviation, far from diminishing, on the contrary increases. In this case, no doubt, the currents traverse the atrophied muscles and influence their antagonists so as to increase their already predominant power.

Once established, the tardy contraction may last for long years, often during the whole life of the individual, but sometimes it seems to diminish. Then however, the



muscles cannot undergo a sufficient amount of extension, and the articulations present certain alterations which hinder any complete straightening, and the vicious attitudes remain; they are then passive. One might also ask whether we can hope for a cure of the hemiplegia when the muscles are already affected by tardy contraction. I do not know any fact which can encourage this hope, and the patients sometimes are deluded with reference to this subject.

Voluntary motion is not always totally abolished in the paralyzed limbs of hemiplegics, but the contraction limits and renders more difficult the muscular actions which are still under the influence of the will. If the rigidity diminishes, then these movements recover more liberty, and such a patient who is always to remain impotent imagines that he sees in this modification the commencement of his cure.

Some symptoms which have a very great analogy to these which we have just studied are observed in certain diseases of the cord which are accompanied by secondary sclerosis of the lateral columns, and especially in cases of compression of that organ. During the first period which correspond to the granulo-fatty degeneration of the tubes, the paralyzed muscles remain flaccid; then, at a more or less advanced period, the contraction appears, the muscles atrophy and the lower limbs assume permanent attitudes which it is difficult to overcome. In some cases, however, the muscles remain flaccid and the limbs are swollen with an elephantiasic œdema; this is on account of the softening of the inferior portion of the cord. The phenomena of excitability, on the contrary, are observed in those cases where the autopsy reveals a secondary descending sclerosis. I need not insist in detail upon these symptoms, which have been very well described, especially by MM. Louis,

Cruveilhier, and Brown-Séquard,\* nor upon the characters of the contraction, for it is in every respect identical with that of patients suffering from hemiplegia. I think that, in order to explain these facts, it is not necessary to consider that there is an accumulation of nervous influx in the inferior part of the cord; we have here an irritation of this inferior extremity, as M. Brown-Séquard thinks; but this irritation has its anatomical cause.

A woman in the wards of M. Charcot, suffering from an ulcerated cancer of the breast, the commencement of which dated back for six years, was suddenly seized with violent, lancinating pains in the lower extremities; for two months, however, the patient had enough strength to be able to walk with the assistance of a cane. At the end of this time, she became unable to stand and was obliged to keep her bed; her legs were flaccid and inert. About seventy days after the time when she became bedridden, her limbs commenced to become flexed, and this flexion, slightly pronounced at first, progressively increased. The legs were strongly flexed upon the thighs, the thighs were in a state of adduction with a certain amount of flexion. A considerable amount of resistance was experienced when we endeavored to extend the contracted limbs, and these attempts were very painful to the patient. The sensibility was preserved; there was a certain degree of hyperæsthesia and some pains in the lumbar regions, with a very painful feeling of constriction around the abdomen and at the base of the lungs. Although purulent during the last few days of life the urine remained acid until death.

\*Louis, *Recherches d'Anatomie Patholog.* Cruveilhier, *Anatomie Patholog. du corps humain.* Brown-Séquard, *Lectures on the diagnosis and treatment of the principal forms of paralysis of the lower extremities*: London, 1861.



The patient died the eighteenth of January, 1866, about six months after the commencement of the paralytic symptoms. The autopsy showed that the cord was compressed by a cancerous tumor of the first dorsal vertebra and by a purulent effusion in the canal, extending from the seventh cervical to the tenth dorsal vertebra. Independently of the ascending degeneration, in the cervical region, we found throughout the whole substance of the lateral columns of the lumbar enlargement, a considerable number of myelocytes and embryoplastic nuclei. The muscles of the posterior portion of the thigh showed no transverse striæ, either by direct or oblique light; the primitive fibres were studded with numerous fatty granules, (resisting the action of acetic acid;) the nuclei of the sarcolemma were extremely numerous.

In this case also, the contraction commenced about two months after the début of the paralysis, precisely at the period when the proliferation of connective tissue becomes developed in the secondarily degenerated columns. In another case of compression of the cord, by Pott's disease, which I examined at the hospital Sainte-Eugénie, with M. Triboulet, death having taken place one month and a half after the commencement of the paralysis, I noticed that the muscles were flaccid all the time, and at the autopsy I found only a fatty degeneration of the lateral columns below the seat of the lesion without any hypergenesis of the elements of connective tissue.

We see that the permanent contraction which is common to hemiplegias and to compressions of the cord, presents in both cases the greatest analogy as regards symptomatology; it is connected with an anatomical condition of the cord common to both these affections, and does not become developed in either case until the

time when the secondary sclerosis of the lateral columns commences. I should add that the permanent contraction of the extremities is seen to have the same characters in primary sclerosis of the lateral columns, as is shown by a remarkable case communicated by M. Charcot\* to the Medical Society of the hospitals, as well as in certain cases of diffused sclerosis of the cord, affecting in a greater or less degree these same lateral columns, examples of which are to be found in a recent work presented by M. Vulpian,† to the same society. Why then, since in all these cases we observe common symptoms and common lesions, do we refer the contraction, in paraplegias, to the lesion of the cord; in hemiplegias, to a lesion of the brain?

This cerebral origin of the tardy contraction is not proved; it was admitted at a time when we were ignorant of the secondary alterations of the cord, and when we considered softening as a chronic encephalitis. It is based therefore upon a double error.

If we admit that the tardy contraction in hemiplegia results from a secondary sclerosis of the lateral columns, we shall have a reason for certain facts which would otherwise appear inexplicable. Thus, in compressions of the cord, the contraction of the inferior extremities is stronger than in hemiplegias, because in the hemiplegia the secondary sclerosis is only developed in the situation of one portion of the decussating encephalic fasciculus, while in the compression of the cord it occupies not only this entire fasciculus, but a certain number of long commissural fibres besides. Thus, also, in hemiplegias, the superior extremity is most often contracted, and is so to a greater degree than the lower extremity, because the

\* *Hystérie avec contracture sclérose des cordes latéraux*, 1864.

† *Note sur les scléroses en plaque de la moelle épinière*, 1866.



decussating encephalic fasciculus is richer in nervous fibres in the cervical region than in the lumbar region, where it terminates in a point; the sclerosis, which is substituted for this fasciculus throughout its whole length, will therefore be more developed at the level of the origin of the nerves of the arm than at the point of departure of the nerves of the pelvic extremity. Thus, also, may we not say that if the thoracic extremity is strongly contracted, while the head is not perceptibly deviated, that it is because the rotator muscles of the head are partly supplied with nerves from the spinal accessory which arises from the lateral portions of the bulb and from the superior extremity of the cord at points which are not influenced by the secondary sclerosis, since, in this region, it is limited to the internal part of the anterior pyramids? But it might be objected that all hemiplegias are not accompanied by contraction. We can answer this objection by stating that there are certain cerebral lesions, as for example superficial lesions of the convolutions, which are capable of producing hemiplegia, and which do not determine secondary degeneration.

We might refer the tardy contraction to other causes, such as an alteration in the structure of the muscles due to the prolonged inertia, but we find complete hemiplegias which always remain flaccid; or to an atrophy of the muscles, resulting either from rest or from some other cause, but the contraction is found in 9 out of 31 cases, without there having been any atrophy of the muscles, and in one case I have found a certain amount of atrophy of the muscles of the arm, without any contraction. There are in reality alterations in the structure of contracted muscles coinciding with a fawn-colored appearance of their tissue; the transverse striæ are often less marked than usual, sometimes ab-

sent, the substance of the primitive fasciculi is more or less granular, studded with fatty and pigmentary granules; the nuclei of the sarcolemma increase in number; 16 times out of 30 the size of the muscles diminishes.\* If these alterations are the proximate cause of the contraction, of which we have no proof, nothing authorizes us to consider them as developed without the action of the central nervous system.†

Independently of the contractions, one quite important symptom seems to me to be attributable to descending degenerations, and more especially to the secondary sclerosis of the bulb. I refer to the epileptiform attacks and to those which are evidently epileptic, which we often meet with in subjects attacked with hemiplegia during infancy, and which are not infrequent in old persons suffering from softening, and in which we find at the autopsy considerable atrophy of a peduncle, of the pons and of the bulb. I must confess that this hypothesis does not as yet appear to me susceptible of a rigorous demonstration; but it seems to me to be

\* Out of 30 cases of hemiplegia with contraction, I have 5 times observed an increase in size of the paralyzed limb, but this hypertrophy no doubt depended upon the œdema of the subcutaneous tissue rather than upon an alteration of the muscles.

† M. Charcot has called my attention to a very curious peculiarity of paralyzed and contracted muscles in hemiplegias of long duration: this is the absence of post mortem rigidity. At the autopsy the limbs of the healthy side present a perfect rigidity; on the contrary the muscles which were contracted during life are entirely flaccid. However, numerous examinations made at different hours after death have shown that usually the diseased muscles do not escape the post mortem rigidity, which is manifest in them almost immediately after death, and only for a very short time. The absence of cadaveric rigidity is seen also in infantile paralysis. It would be curious to find out whether putrefaction is developed more rapidly in the paralyzed limbs.



true, because in one patient suffering from an intense sclerosis of the bulb from compression of that organ, the epileptic fits were very strong and very frequent, and because when we saw him sometimes, a few moments previous to an attack, the contraction markedly increased in the paralyzed limb.

We very often see in cases of hemiplegia an increase in the size of the nerves, with vascularity and increased thickness of the envelope of connective tissue, often also with a deposit of fatty globules in its interstices. I do not know whether this kind of hypertrophous neuritis, to which M. Charcot, and after him M. Cornil,\* have called attention, depends upon secondary degeneration of the cord, or whether it is not solely the result of inertia; at all events, it seems to be connected with those pains, often quite severe, already pointed out by Remak, which the hemiplegics feel in the paralyzed arm, pains which are increased by pressure along the course of the nerve, and which are often alleviated by the application of a blister, as M. Charcot has several times proved.

As for the alterations of nutrition, such as the atrophy of the compact tissue of bone, the squamous condition of the skin, &c., I doubt whether they can be referred to the secondary degeneration of the cord.† This degeneration, besides, does not modify in any re-

\* Note sur les lésions des nerfs et des muscles liées à la contraction tardive et permanente des membres dans les hémiplegies. (Comptes-rendus de la Société de Biologie, 1863.)

† As for the articular alterations, which are of frequent occurrence, they depend evidently only upon the immobility, and differ in no respect from those which are produced by that cause, outside of any influence of the nervous system. Upon this subject consult Teissier, *Memoires sur les effets de l'immobilité longtemps prolongée des articulations.* Lyons, 1844.

spect the phenomena of calorification which we observe on the side of the paralyzed limbs. The paralyzed hand is always the warmer, even at a time very distant from the commencement of the symptoms, and we sometimes find considerable variations in the temperature of the two sides of the body.\*

The examination of five patients, made with this object in view, has furnished me with the following results:

Age.	Date of commencement.	Paralyzed hand.	Healthy hand.
70 years.	Several years.	95.3°	89.6°
42 “	14 months.	95°	89.9°
72 “	12 years.	99.3°	98.6°
65 “	5 “	97.8°	97.5°
51 “	14 months.	97.1°	95°

Thus far I have only spoken of the symptoms of descending degeneration; the secondary ascending sclerosis do not appear to betray themselves by a single symptom. We might however imagine that this sclerosis of the posterior columns could determine the phenomena of motor ataxy in the upper extremities, but it is not so; and this is explained by the separation which the intermediate posterior sulcus establishes between the centripetal fibres of the pelvic and those of the thoracic extremities. Even in cases of compression of the cord in the cervical region, when the secondary sclerosis also affects the external fasciculus of the posterior column, it is probable that we should not find symptoms of ataxy. In fact, ataxy supposes the destruction of a certain number of nerve tubes, and secondary sclerosis does not appear to destroy the healthy tubes which are plunged into its interior; it only deforms them and may exalt their activity, but does not annihilate them.

\* According to M. Routier, there should be a diminution of the temperature of the paralyzed side immediately after the attack. The elevation of the temperature only comes on at the end of twelve or twenty-four hours. (A. Routier, *Théses*. Paris, 1846.)



In conclusion, I will state that these cases which I have gathered at Sainte-Eugénie, with M. Triboulet, and two others which I have studied at the Salpêtrière with M. Charcot, warrant me in affirming that a cure is possible, even when the columns of the cord seem to have undergone secondary degeneration. In these five cases there was complete paraplegia due to the compression of the cord by Pott's disease. In four cases, sensibility and motion have returned in all their integrity; in only one, motion, without having recovered its entire liberty, nevertheless allows the patient to walk. In this case the paraplegia was flaccid; in the others it was accompanied with contraction. We may therefore conclude that the nerve tubes of the cord may be regenerated like those of the peripheral nerves, not only in the child but also in the adult, and even when the degenerated fasciculi have already been the seat of a hypergenesis of nuclear elements.

## SECONDARY DEGENERATIONS OF THE SPINAL CORD.

## EXPLANATION OF THE PLATE.

FIG. 1. Secondary degeneration of the mesocephale in an old softening of the right hemisphere. Atrophy and gray color of the right peduncle. Flattening of the Pons Varolii on the right side. Atrophy and gray color of the right anterior pyramid. Gray discoloration in the left lateral column below the bulb.

FIG. 2. Histological lesions in the first stage of secondary degenerations.

*a.* Granular bodies.

*b.* Vessel with fatty granulations accumulated in the lymphatic sheath.

*c.* The same granulations, but more numerous, in the lymphatic sheath at the point of bifurcation.

FIG. 3. Histological lesions in the later stages of secondary degenerations.

*a.* Myelocyte.

*b.* Vessel with numerous nuclei and very few fatty granulations in the sheath.

*c.* Amyloid body.

FIG. 4. Section of the cord in the dorsal region in a case of old secondary degeneration of the posterior columns.

*ac* and *a'c*. The posterior columns.

*bc* and *b'c*. The portion of these columns where the tubes are scanty, separated by the connective tissue of new formation.

FIG. 5. Sections of the cord in a case of old lesion of the left hemisphere. The parts colored black indicate the points of location of the secondary degeneration.

*a.* Cervical enlargement.

*b.* Dorsal region.

*c.* Lumbar enlargement.

FIG. 6. Descending degeneration in a case of compression of the cord at the upper part of the dorsal region.



- a.* Section made a few centimeters below the compression.
- b.* Inferior portion of the dorsal region.
- c.* Lumbar enlargement.

FIG. 7. Ascending degeneration in a case of compression of the cord at the lower part of the dorsal region.

- a.* Section made a few centimeters below the compression.
- b.* Superior portion of the dorsal region.
- c.* Middle of the cervical enlargement.
- d.* Superior portion of the cervical enlargement.

FIG. 8. Secondary degeneration in a case of compression of the cauda equina.

- a.* Inferior portion of the lumbar enlargement.
- b.* Superior portion of the lumbar enlargement.
- c.* Middle of the dorsal region.
- d.* Middle of cervical enlargement.

Fig. 1.

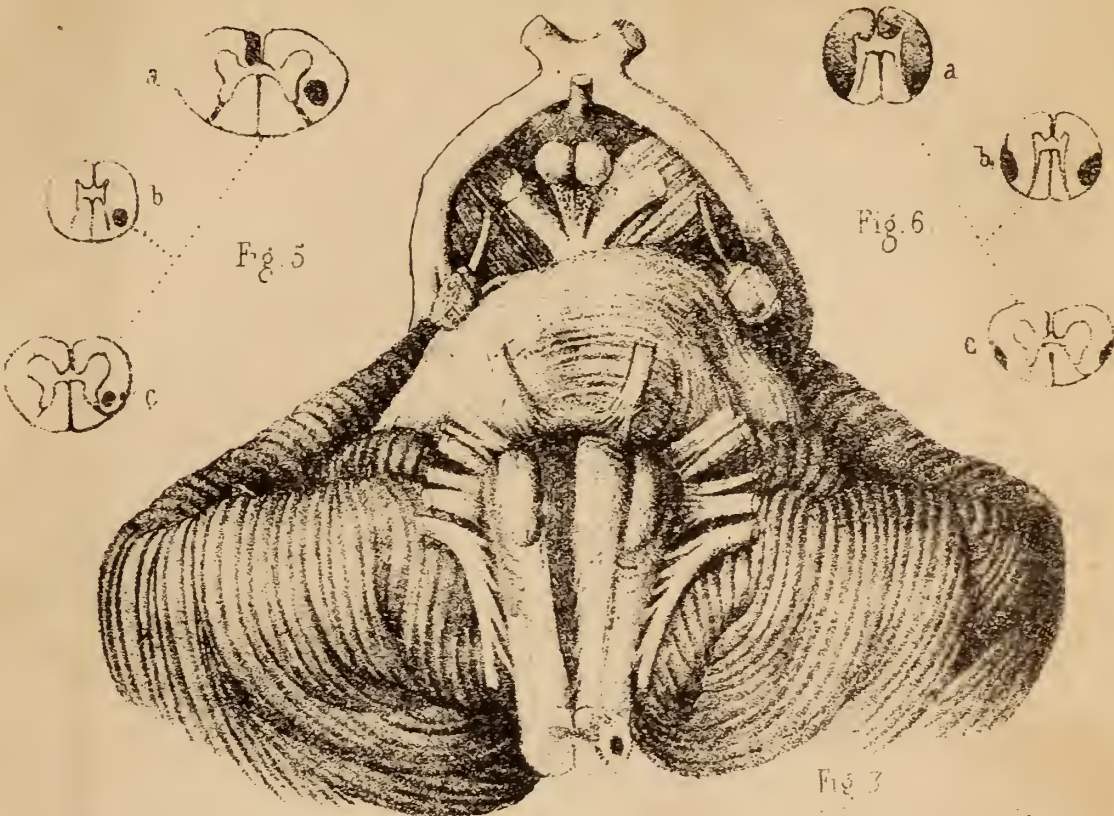


Fig. 2

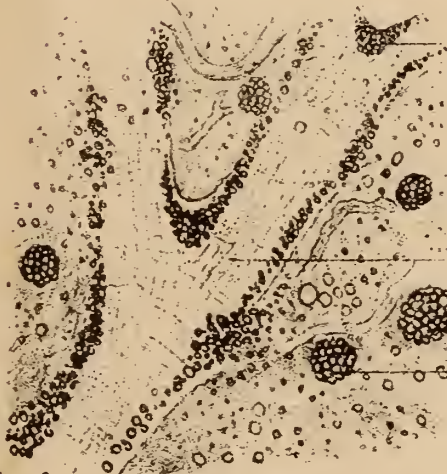


Fig. 8.

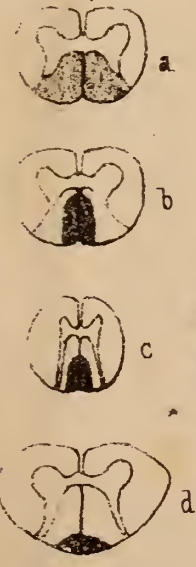


Fig. 4.

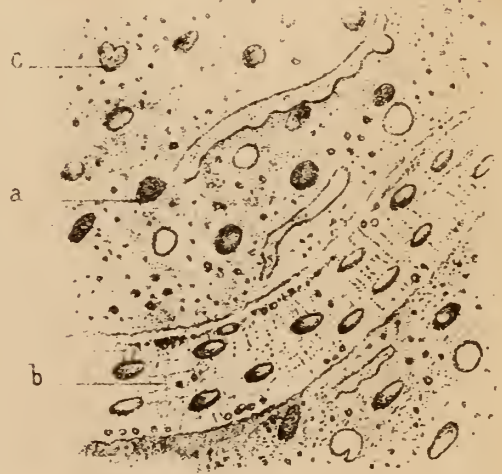
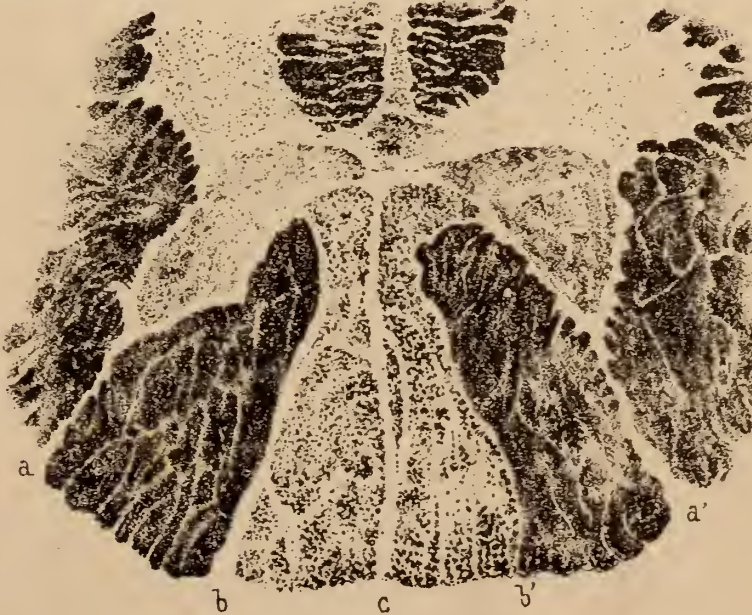
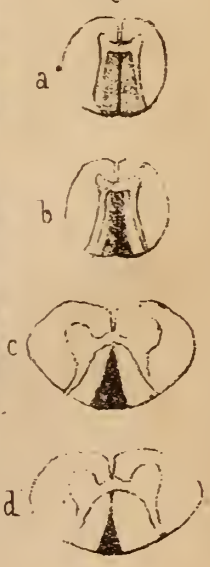


Fig. 7.







AGE.	DURATION.	SIDE PARALYZED.	CONDITION OF THE MUSCLES.	SHOULDER.	ARM.			FOREARM.			HAND.	FINGERS.	THIGH.		KNEES.	FEET.
					ADDUCTION.	ROTAT'N.	(1) CIRCUM.	FLEX'N.	ROTAT'N.	CIRCUM.			EXTEN.	ABDUCT.		
66	4 mos.	left.	feeble.	lowered.	slight.	inward.	30	100 °	pron. 1st.	24	26	flex. slight.	flex. strong.	.....	.....	.....
69	3 yrs.	left.	quite strong.	lowered.	slight.	inward.	19	135 °	pron. 1st.	20	20	.....	flex. slight.	.....	.....	.....
50	18 mos.	right.	quite strong.	lowered.	slight.	inward.	24	45 °	supina.	21	22	ext. slight.	flex. strong.	.....	.....	.....
59	6 mos.	right.	flaccid.	.....	.....	.....	32	(2)	.....	27	27	.....	.....	.....	.....	.....
70	2 yrs.	right.	strong.	.....	very slight.	inward.	(3)	70 °	pron. 2d.	.....	.....	flex. strong.	flex. of the 1st phal.	exten. abduct.	semi-flexed.	equin. slight.
44	5 yrs.	right.	very feeble.	lowered.	very slight.	inward.	27	135 °	pron. 1st.	24	25	flexion very slight.	flex. quite strong.	.....	.....	.....
67	9 mos.	left.	very feeble.	lowered.	.....	inward.	17	150 °	sup. slight.	19	18	.....	extension.	exten.	.....	equin. slight.
56	1 yr.	right.	feeble.	elevated.	.....	inward.	24	110 °	pro. slight.	21	20	.....	flex. of the 1st phal.	.....	.....	equin. very slight.
67	3 yrs.	right.	Triceps rigid	.....	.....	.....	21	23	extens.	pron. 1st.	19	21	.....	flex. strong.	.....	equin. quite marked.
33	13 yrs.	right.	very strong.	lowered.	.....	.....	23	90 °	pron. 1st.	22	24	flexion.	flexion.	.....	.....	equinus.
70	sev. yrs.	left.	strong.	elevated.	quite strong.	inward.	14	70 °	pron. 2d.	13	15	flex. strong.	flexion.	exten.	flexion.	slight talus.
42	14 mos.	left.	feeble.	lowered.	.....	inward.	25	130 °	sup. slight.	25	26	ext. slight.	flexion.	exten. abduct.	flexion.	equin. slight.
56	18 yrs.	right.	.....	lowered.	.....	.....	28	120 °	pron. 1st.	24	24	.....	flexion.	.....	.....	.....
75	12 yrs.	right.	very strong.	.....	.....	inward.	22	30 °	supina.	19	22	flexion.	flexion.	.....	.....	.....
66	5 yrs.	right.	quite strong.	very elev.	.....	inward.	15	16	extens.	pron. 1st.	17	17	flexion.	flexion.	flexion abduct.	very flexed.
51	14 mos.	left.	feeble.	lowered.	.....	.....	25	27	extens.	pron. 1st.	26	26	.....	flexion.	flexion abduct.	talus.
79	18 mos.	left.	feeble.	lowered.	.....	.....	20	150 °	pron. 1st.	18	19	extens. very slight.	extens. very slight.	.....	.....	.....
76	10 yrs.	right.	quite strong.	elevated.	slight.	inward.	18	130 °	pron. 2d.	18	19	extension.	flexion.	flexion	flexion.	equin. slight.
40	1 yr.	right.	quite strong.	lowered.	slight.	inward.	18	90 °	pron. 1st.	18	19	flexion.	flexion.	.....	.....	.....
68	sev. yrs.	left.	strong.	elevated.	abduct.	inward.	16	30 °	pron. 2d.	16	18	very light flexion.	very slight flexion.	exten. abduct.	flex.	equinus.
67	2 yrs.	right.	strong.	.....	.....	.....	24	135 °	pron. 1st.	23	23	.....	flex. slight.	.....	.....	.....
69	1 yr.	left.	feeble.	elevated.	.....	.....	21	150 °	pron. 2d.	21	21	flex. light.	flexion.	flexion ab. slight	flex. slight.	equinus.
74	10 yrs.	right.	quite strong.	elevated.	adduct.	.....	23	135 °	pron. 2d.	21	21	flex. light.	flexion.	.....	.....	.....
66	3 yrs.	left.	feeble.	lowered.	.....	.....	23	135 °	pron. 1st.	21	23	flex. light.	flex. slight.	.....	.....	.....
68	1 yr.	left.	very feeble	elevated.	.....	.....	17	20	.....	pron. 2d.	17	19	.....	flexion.	.....	.....
			except the fingers.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
77	sev. yrs.	right.	feeble.	.....	.....	inward.	21	90 °	pron. 2d.	20	21	.....	flexion.	.....	.....	.....
72	2 yrs.	left.	quite strong.	elevated.	adduct.	.....	22	120 °	supina.	23	22	flexion.	flexion.	.....	.....	.....
67	3 yrs.	left.	quite strong.	lowered.	.....	.....	29	120 °	supina.	24	23	ext. slight.	flexion.	.....	.....	.....
61	3 yrs.	left.	feeble.	elevated.	adduct.	inward.	24	115 °	supina.	23	23	flexion.	flexion.	.....	flex.	.....
65	8 yrs.	left.	quite strong.	lowered.	.....	inward.	25	130 °	pron. 1st.	22	23	flex. light.	flex. slight.	.....	.....	.....
76	2 yrs.	right.	strong.	elevated.	adduct.	inward.	22	45 °	pron. 2d.	19	20	flexion.	extension.	exten. abduct.	flexion.	.....
74	2 yrs.	right.	very feeble.	.....	.....	.....	27	150 °	pron. 1st.	24	22	.....	flexion.	.....	.....	.....

*Nota.*—In this table, comprising the analyses of 32 old cases of hemiplegia, the *blanks* indicate an indifferent position of the articulations owing to muscular flaccidity.

(1) In the columns giving the circumference of the arm and that of the forearm, the numbers indicate centimetres, the first referring to the paralyzed and the second to the healthy arm.

(2) In this case all the articulations were in an indifferent position; it is the only case of flaccid hemiplegia.

(3) Neither the circumference of the arm nor that of the forearm are indicated, as it was impossible to know whether the paralyzed limb was atrophied, the patient having suffered amputation of the non-paralyzed limb.





# OBSERVATIONS ON A FORM OF NERVOUS PROSTRATION, (NEURASTHENIA,) CULMINATING IN INSANITY.

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Our observations have led us to think that there is a disorder of the nervous system, the essential character of which is well expressed by the terms given above, and so uniform in development and progress, that it may with propriety be regarded as a distinct form of disease. Though analagous with, and presenting in certain cases a few symptoms similar to those found occasionally in irregular forms of malarial disease, the difference between the two morbid conditions is well marked, and easily recognized.

Among the causes, excessive mental labor, especially when conjoined with anxiety and deficient nourishment, ranks first. It is also traceable to depressing emotions, grief, domestic trouble, prolonged anxiety and pecuniary embarrassment; hemorrhage and debilitating diseases, following or coincident with depressing mental influences and sleeplessness. Prolonged exposure in a malarial region under certain circumstances may also induce it.

Its leading symptoms are general *malaise*, impaired nutrition and assimilation; muscular atonicity, changing the expression of the countenance; uterine displacements, with consequent results, and neuralgias of debility, cerebral anæmia, with accompanying tendency to hyperæsthesia, irritability, mental depression, impaired intellect, melancholia and mania. In cases terminating

\* Supplement to Annual Report for 1867 and 1868.



fatally, death ensues from exhaustion, or from coma, with extensive sub-arachnoid effusion.

If an individual exposed to malaria is in robust or usual good health, and the exposure be recent, we may have the ordinary phenomena of intermittent fever, as generally met with in all malarial districts. If the reverse be the case, and the resistive power of the individual be less, the result is often a series of neuralgic affections and disabilities, of frequent occurrence in the experience of every practitioner of medicine; but occasionally, when the struggle is prolonged and under circumstances of a peculiarly depressing character, the nervous system is weakened and its functions become disordered, the secretions are more or less deranged, digestion is enfeebled, the patient becomes irritable and depressed, and serious intellectual disturbance ensues. Thus may malaria develop the morbid condition now under consideration.

In by far the larger proportion of cases, however, which have been presented for treatment in this Institution, malaria can have had no influence, either recent or remote, in the causation of the disease. In most of them there had been a coincidence of depressing influences under which even the most robust and healthy organizations have finally yielded.

The exhaustion consequent upon protracted attendance at a sick bed, with loss of sleep and irregular meals, solicitude as to the final issue, and, in case of a fatal termination, the shock of the bereavement, is a cause. It has occurred, too, in the persons of those occupying positions of great responsibility, the duties of which were of a nature to make heavy demands upon the nervous energies of the individual, and at the same time deprive him of the large amount of sleep rendered requisite by the exhausting labors of the position.

The early married life of the wives of some of our smaller farmers seems especially calculated to predispose to this condition. Transferred to an isolated farm-house, very frequently from a home in which she had enjoyed a requisite measure of social and intellectual recreation, she is subjected to a daily routine of very monotonous household labor. Her new *home*, if it deserve the name, is, by a strict utilitarianism, deprived of everything which can suggest a pleasant thought: not a flower blooms in the garden; books she has, perhaps, but no time to read them. Remote from neighbors, as in sparsely settled districts, for weeks together, she sees only her husband and the generally uneducated man who shares his toil.

The urgency of farm work necessitates hurried, unsocial meals, and as night closes in, wearied with his exertions, the farmer is often accustomed to seek his bed at an early hour, leaving his wife to pass the long and lonely evening with her needle. Whilst the disposal of his crops, and the constant changes in the character of farm labor afford her husband sufficient variety and recreation, her daily life, and especially if she have also the unaided care of one or two ailing little children, is exhausting and depressing to a degree of which but few are likely to form any correct conception. From this class come many applications for the admission of female patients.

The hot-house educational system of the present day, and the rash, restless, speculative character of many of our business enterprises, as well as professional engagements, are also strongly predisposing in their influence to debilitating forms of nervous disorder.

Among the earlier symptoms is an impaired appetite, and perhaps slight loss of flesh, but with a degree of mental and physical languor singularly disproportionate



to the other symptoms and circumstances of the case. The careful observer, having his attention directed to the imperfect assimilation due to the loss of nerve tone, will often detect a marked excess of urea. To the same deranged functional action of the kidneys may be traced the strange drowsiness occasionally observed. In a patient treated here in 1860, in whom this somewhat unusual drowsiness was well marked, it was found that the urine nearly semi-solidified on the addition of nitric acid. As a general rule, however, the urine in these cases is paler than in health, and is secreted in larger quantities.

A succeeding symptom is marked muscular atonicity, manifest in the position and gait, and which often singularly changes the expression of the patient, more particularly of the mouth and the lower portions of the face, and especially so in females. Thus the approximation to a more natural expression marks the progress towards restoration. To the same muscular atonicity is attributable the frequent occurring uterine displacements, and the distressing train of accompanying symptoms.

Irritability and hyperæsthesia, increasing proportionally with the increasing nervous prostration, we have next a new series of morbid manifestations—the neuralgias on the one hand, or disordered intellection on the other—developed in accordance with the direction of the morbid action. With these neuralgias we have, in this connection, very little to do, and will dismiss them for the present, with a few remarks relative to the difference existing between them and similar neuralgic developments in certain forms of malarial disease.

Physicians practising in malarial districts are familiar with the multiform nervous phenomena, occurring as a

consequence of exposure to the malarial poison, so frequently met with in certain localities. They are constantly meeting with neuralgic and morbid mental manifestations, sometimes carried even to the point of maniacal excitement, all solely attributable to the effects of this strange poison. They find no difficulty in detecting their nature and cause, and applying suitable remedies. Many of our physicians, also, are perfectly familiar with the particular ailment now under consideration, and have readily recognized the points of differential diagnosis.

As a general rule in the malarial neuralgias, when once located there need be little apprehension of further complication or transfer to any other portion of the nervous system, but not so in the neurasthenic. In these we have the premonitory symptoms before alluded to, and even, as previously remarked, if the direction of the morbid action for the time being develop a simple neuralgia, judicious treatment alone can arrest the tendency to mental complication. The recognition, therefore, of this form of nervous disorder, the presentation of a few hints as to the agency most likely to arrest this tendency, and the course of treatment we have found most efficacious in the mental alienation accompanying it, is the object of this paper.

As to the term *neurasthenia*, it is an old term, taken from the medical vocabulary, and used simply because it seemed more nearly than any other to express the character of the disorder, and more definite, perhaps, than the usual term "nervous prostration."

Secondary to the earlier symptoms of irritability and the depression of the vital power already mentioned, is a marked tendency to hyperæmia. The earlier morbid conditions having failed to attract attention, it is not strange that observers have occasionally regarded one



of these located hyperæmias or congestions as the *fons malorum* itself.

In the case of all patients who have suffered from nervous prostration for any length of time, cerebral anæmia may be anticipated, and when, coincident with irritability, it exists as a secondary result, or, in consequence of impaired digestion and assimilation, cerebral hyperæmia, with its distressing train of symptoms, is very readily induced, by any cause calculated to quicken the circulation. Hence the importance of great caution in protecting the patient from influences likely to produce this.

To this circumstance is due the fact that neurasthenic patients seldom tolerate the use of alcoholic stimulants. A single teaspoonful will often produce flushing of the face, burning heat of the eyelids and distress in the head. Mental emotions, ill-timed interviews with friends, and the injudicious acts and remarks of an attendant may also speedily induce an unpleasant hyperæmia.

It is a well recognized fact in mental pathology, that in the asthenic the earliest marked morbid psychological symptom is *distrust*. It is true that this is usually preceded by irritability and other modifications of temper and disposition—grave symptoms always—which should promptly receive the attention both of physicians and friends, but, as before remarked, the first clearly marked morbid sentiment is *distrust*. If the sufferer be an individual of deep religious feelings, to whom there is but the one only, great and vital interest, there is distrust of God's promises, morbid views of personal relations to the church, and to society—in fine, what is improperly termed "religious melancholy." If the acquisition of gain and the possession of broad acres have been the great object of life, there are torturing apprehensions of poverty; the poor-house stares the patient in the face,

and pauperism is his inevitable fate. Title deeds are filled with flaws, his notes are forgeries, and even gold and silver to him are worthless. If the conjugal relations have been peculiarly close and tender, there are the tortures of jealousy. In a few exceptional cases the morbid feeling has been general in its application.

If at any time during this stage there occurs a *sudden and entire* change in sentiment; if hope takes the place of despair, and the jealousy and suspicion be suddenly supplanted by the opposite sentiments, it almost invariably betokens still greater prostration, and but a trifle more will then be required to develop mania.

As before observed, in the earlier stages, through deficient innervation, there is derangement and suppression of secretion, and, as would naturally be expected, very uniformly in female patients, menstrual suppression. If, through a misapprehension of the character of this suppression, active emmenagogues and uterine excitants be resorted to, with the view of forcing the organ to a resumption of its function, the attempt will not only fail, but will induce uterine and vaginal hyperæsthesia, create delusions of a most unpleasant character, and sometimes develop an almost uncontrollable furor uterinus. So, also, when dyspepsia is the prominent symptom, an analogous course of treatment will frequently cause great local distress, and often develops delusions of apprehensions of personal danger from poison with a disposition to refuse food under the influence thereof. Uterine displacement with leucorrhœal discharge, is very commonly present, and at some stage is apt to be the most prominent difficulty under which the patient labors. Through muscular atonicity the organ sinks and finally rests upon the vaginal walls, the pressure producing congestion, ulceration and discharge. In several cases admitted here, the condition of the patient



from this cause had become one of great misery; still in no single instance has it become necessary to resort to any local treatment whatever, and in no case has there been a failure to give the patient entire and permanent relief by remedies addressed to the constitutional condition solely.

Headaches are not a prominent or frequent symptom, except as an accompaniment of cerebral hyperæmia, and sometimes, perhaps, when it occurs in association with uterine irritability.

Sleeplessness is a common and, at certain stages, a most distressing symptom. As previously observed, drowsiness sometimes occurs as a consequence of disordered renal function; it may likewise depend upon venous cerebral hyperæmia. Healthy, refreshing sleep is of course not to be expected under such circumstances. As the debility increases, the morbid irritability and activity increase therewith, and maniacal excitement soon follows.

A few patients, especially, in the earlier history of the attack, suffer from wakefulness only during the earlier hours of the night. When, through the composure induced by quiet and the recumbent position, the circulation is equalized and the cerebral hyperæmia relieved, a few hours of healthful and natural rest is enjoyed. To this is due the frequent statement of these patients that they sleep much better towards morning than at any other time.

A profuse, saturating perspiration is another frequent, and to the patient, very annoying and distressing symptom. Its occurrence usually accompanies extreme nervous prostration, and very clearly indicates the character of the remedial agency to be employed. It may occur at any hour of the day, and may or may not be preceded by shiverings; more commonly, however, the patient

falls into a profound sleep after a few hours of restless tossing, and on awakening from his brief rest, finds himself bathed in perspiration, his clothing, and sometimes a portion of the mattress and pillow saturated.

At a still later stage, when the exhaustion is very profound, copious, oft-recurring mucous stools frequently occur. They are sometimes of a very offensive and nearly putrid odor, a circumstance supposed to be due to the acknowledged tendency to spontaneous decomposition, which accompanies low vital power. So, also, the urine is often found of very disagreeable odor, and probably from a similar cause. The breath sometimes is so fetid as to suggest mercurial sore mouth; indeed, the room occupied by a patient in this stage of the disease, unless it be thoroughly ventilated, is pervaded by a peculiarly characteristic and unpleasant odor.

In two cases ascites existed, and was at first a puzzling symptom. The sounds of the heart being modified, in a measure, by the impaired character of the blood driven through it, a cardiac complication might be suspected by an inexperienced auscultator. The condition disappeared as the patient improved; and where it thus exists, it is probably to be relieved only by restoring the tone of the system, and thus constricting and rendering firmer and closer the coats of the weakened and relaxed vessels. When a portion of the skin is taken up and pinched into a fold, it very slowly returns to its position. By comparing this want of natural elasticity from time to time, a tolerably correct opinion can be formed of the progress towards restoration.

Through deranged innervation, and cutaneous hyperæsthesia dependent thereon, patients sometimes experience very strange sensations. In the case of a lady under our care, no amount of atmospheric heat, and no application of clothing, could change in the least these morbid



sensations. Warm as the room could be made, and wrapped up in blankets and shawls, she still complained of cold.

In our experience, after convalescence commenced there has been no tendency to relapse. The improvement, both mental and physical, has been *pari passu*, and in no case has there been a return of the disease.

Although it is generally supposed, that masturbation and venereal excesses rank among the most potent causes tending to debilitate the nervous system, the most careful investigation has failed to show, in a single case of this disorder, any reason to believe that these improper indulgences could be correctly assigned even as a predisposing cause.

During a single season, three cases were presented, two in the persons of ministers of the gospel, and the third, a member of a clergyman's family. Each were well-marked instances of this form of disorder; in each, over-exertion and an insufficiency of healthy, nutritious food was the undoubted cause. Not one of them had ever resided in a malarial region previous to the commencement of treatment. Under the use of nerve tonics, and a nutritious and easily digested diet, speedy restoration followed in each case.

We cannot but regard the *early recognition* of this condition as of special importance, convinced that properly directed treatment will, in the larger proportion of cases, stay its progress. In the analogous affections of malarial origin, a few months delay is not of vital moment, and a change of residence, to a mountainous region or a sea-side district, is often sufficient in itself to effect restoration. In the neurasthenic, the morbid tendency is strongly *progressive*. If, in the early neuralgic stages, a course of medical treatment analogous with that employed in malarial neuralgias be instituted, with

proper general hygienic measures, a cure may be anticipated. Sciatica is by far the most frequent form of neuralgia accompanying neurasthenia. The blisters, counter-irritants and purgatives, so efficacious in the sthenic form of the disease, are of no service—on the contrary, usually aggravate the symptoms. Relief from intense pain, to secure sleep and preserve the strength of the patient, may be procured by the hypodermic use of the acetate of morphia, which will generally be found successful. This, with a carefully conducted course of nerve tonics has, in the cases coming under our observation, uniformly restored the patient to his previous health.

Where, however, there is present instead of the neuralgic pains, depression of spirit, irritability and disturbed sleep, there is evidenced a location or direction of the morbid action, which should create the liveliest apprehension and induce prompt treatment. Proper hygienic and medical agencies, with relief from previous cares and anxieties, and change of scene and occupation, will, we think, in the larger proportion of cases, preserve the patient from confirmed melancholia or mania. These are the only forms of mental alienation in our experience associated with neurasthenia. Hypochondriasis has not been recognized in a single case.

In the organization of those portions of the nervous system designed more especially for the performance of the mental functions, or intellection, there is found a far more liberal supply of blood-vessels than elsewhere. This shows an anticipation of more rapid tissual destruction here, and at the same time provides a medium of nutritional repair and renewal, properly proportioned to the extreme requirements of this portion of the organization. Through this medium the remedial and preventive efforts must mainly act. Whatsoever agency



therefore, or hygienic influence, can be made to improve nutrition and enrich the blood will be curative, and will act in the right direction.

The mysterious fluid or whatsoever it may be, the normal constitution of which is essential to the healthy action of the nerves, seems thereby to be restored or corrected. The several organs again receiving a healthy nerve influence, resume the proper discharge of their respective functions. Assimilation is rendered perfect, digestion becomes vigorous, the muscles are toned, the liver, kidneys and skin perform aright their important duties, the brain function also is healthfully and naturally performed, and the work of restoration is complete.

It must be borne in mind that we have not failed to recognize the fact, that loss of nervous power, does much more largely than heretofore, characterize many of the disorders now presented for treatment. Cases of well-marked asthenic mania and melancholia are also frequently received and easily enough recognized. The intellectual disturbance, in the cases under consideration, is not sympathetic with physical derangement, nor due, either to the sluggish action of eliminating organs or to the circulation of impoverished blood, but seems to be purely a functional derangement, strictly identical in character with the neuralgia, the muscular atonicity and the other evidences of deficient innervation preceding it; the brain, as under other morbid agencies, being slow to yield to disturbing influences.

This peculiarity in the character of the psychical disturbance, and the fact, that in a large number of cases submitted for treatment, this, and the other symptoms previously enumerated, have observed a uniform order of sequence, have led us to regard it as a distinct form of disease, which, as a matter of convenience of record, we have placed under one head.

The *moral treatment* is the same as that adopted in corresponding forms of mental alienation from any other cause, and is conducted on the same general principles.

Frequent and long-continued gentle exercise in the open air is of great service in relieving the morbid irritability. It should never be carried to the point of fatigue. Its quieting influence is well shown in the effect of a slow, lounging walk about the grounds by this class of patients. An individual laboring under a considerable measure of maniacal excitement becomes calm and composed, while the same exercise in a corresponding state of sthenic maniacal excitement would still more disturb.

In the earlier stages, *recreative occupation* is a term expressing the exact requirements of the patient in this direction. Physical exercise and occupation, to be of any special service must be recreative and of a character to engage the thoughts of the individual healthfully. It should secure the satisfaction of some useful object or purpose, fully attained. If it does not fully occupy and engage the attention, it must constantly remind the patient of his invalidism, and thus fail entirely in securing the object suggesting it.

As a relief for the depression, traveling is very likely to be suggested, but is very seldom beneficial. The different stages of a journey cannot be so arranged as to secure regularity in sleep and in taking meals. The mode of preparing the food and its character cannot be made to meet the requirements of the case. Ideas and thoughts are presented and suggested so rapidly as to cause great weariness, and it is not at all unfrequent to meet with instances, in which a patient leaving home suffering from depression simply, returns more deeply melancholic, or even maniacal.

The form of mania in its more general features, does



not differ decidedly from asthenic mania, at the same time it is of the utmost importance to distinguish between the two. The usual treatment of acute mania with great prostration, by hyoscyamus, or by hyoscyamus, morphia and camphor, brandy and the prolonged hot bath, is inadmissible in cases of neurasthenic mania, death usually ensuing from coma, and sometimes, with great rapidity. The use of tart. ant. et pot., which so pleasantly arouses secretion in sthenic mania, and thus renders efficient the anodynes indicated, is here of no service and does positive harm.

Sponge-baths, while the patient is lying in well-warmed blankets, with brisk and prolonged spirit frictions, is very soothing in its effects, insomuch that patients have fallen asleep during the process, as in the hot bath in sthenic mania. While this is being administered, a few spoonful of beef-tea at occasional intervals, or a little wine in extreme cases, may be necessary. When an equality of temperature between the head and the extremities is established, and the skin has become warm, moist and natural, small quantities of wine, or a teaspoonful of brandy, prepared with milk and egg, should be cautiously administered in small quantities, at stated intervals.

When there is great irritability of the stomach—a very common symptom—a teaspoonful or two of champagne, or of water charged with carbonic acid, may be given with advantage through a syphon, with sinapisms to the epigastrium. When there is reason to suspect hyperæmia of the stomach, the tendency to vomiting continuing with pain on pressure, ice-cream and nutritious gelatines should be the principal diet.

In treating the melancholia of this class of patients, morphia, of such marked service in other forms of mental depression, is inadmissible.

*Quinine*, in the experience of this Institution, ranks first as a nerve tonic. The cases in which it is not tolerated are very rare. Though accustomed, except in extreme cases, to defer its administration until attention has been given to the secretions, it is not necessary or advisable to await the cleaning of the tongue. Indeed, in many cases alteratives have but little influence in this direction until the use of the quinine has sufficiently toned the nervous system to secure their proper application and effect. It appears to be contra-indicated only where there exists a very marked tendency to cerebral hyperæmia, and then only at particular stages of treatment. It is usually given in single grain doses, rendered soluble by five or ten drops of dilute phosphoric acid, repeated four times daily.

*Arsenic* has, in very many instances, proved itself a most efficient remedy. It has been especially beneficial in cases marked by considerable irritability, with emaciation, and the ill-conditioned skin occasionally met with. Under its use in this class of patients, the skin soon becomes smooth and fair, flesh is gained rapidly, and the irritability proportionally decreases. The instances, however, in which it disturbs the stomach, and is intolerable, are not few; and when this intolerance really exists, it is manifested towards even the smallest doses. It is generally well adapted to cases in which quinine is, for any reason, contra-indicated. At the same time, as an antiseptic, it probably arrests the rapid tendency to tissual disorganization characterizing this form of disorder, and it is our opinion that in the earlier stages it will be found of great service. It may be ranked as a *nerve nutrient*.

*Strychnine* is most serviceable in cases accompanied by intestinal torpidity and muscular atonicity. It has been prescribed, also the ext. nuc. vom. in combination



with the vegetable bitter extracts and taraxacum. As an efficient laxative in these cases—and often unaided—its action is decided. In the case of a female treated here, a moderate dose of the solution in the evening, followed by a second early in the morning, invariably afforded pleasant relief a few hours afterwards. It is much less likely than arsenic to disturb the stomach. In the dyspepsia of the neurasthenic it has always acted well, and no other remedial agent in our hands is more sure and positive in the direction of its action. Wherever the morbid action may be, there will this singular agent be found manifesting its presence.

*Iron* and its various preparations, we have come to regard, as of but little positive service in the earlier treatment of the severer cases presented. It seems to be of much service, only after there has been secured some measure of nerve force; and that form should be used, which, by actual trial is found best suited to the particular case under treatment. When the malaise, restlessness and irritability is persistent, a very efficient formula is the one introduced many years ago, and known as the *Mist. Conii et Ferri*. We can easily understand the strong preference expressed for it by the older practitioners. It is not at all unpleasant to the taste, and is almost invariably tolerable. The preparation of iron entering into its composition here, is the soluble ammonio citrate.

*Phosphorus*, though considered an efficient renovator of nerve tissue and nerve power, has not, in our hands, given such satisfactory results as to lead to its very frequent administration. It is quite possible that its specific effect would be more marked in the earlier stages of the disorder. In combination with the phosphate of iron, it is especially valuable in chlorotic females, in whom the blood impoverishment is due to impaired assimilation from defective innervation.

Skillful pharmacutists have recently placed in the hands of the profession many attractive preparations, the constituents of which would seem to adapt them almost perfectly to the precise requirements of this class of patients. In treatment at this Institution, however, we have had more satisfactory results from extempore prescriptions. Careful daily observation at the bedside will detect many slight variations in symptoms, indicating corresponding modifications of prescription. The combination of remedies used, are presented in the histories of the cases prepared to illustrate this subject. These, with the statistical tables covering our experience in this form of disorder, necessarily omitted in this, will be given in full in a future report.

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### THE LATE PROFESSOR GRIESINGER.\*

We proceed to give some account of the life, character and labors of this eminent man, in fulfillment of the promise made to our readers in the announcement of his death in the January number of this JOURNAL.

WILLIAM GRIESINGER was born at Stuttgard, on the 29th day of July, 1817. His father was steward of the hospital there, and upon him as such the chief administrative functions of the establishment devolved. Young Griesinger received his primary education at the Gymnasium. Here both Roser and Wunderlick were his fellow students; all having been born in the same street in Stuttgard. From one of these we learn that at the

\* Archiv. fur Psychiatrie. Transactions of Berlin Psychological Society. Memorial Addresses of Drs. Westphal and Lazarus. Gedenkfeir fur W. Griesinger in Wien. Addresses of Dr. Billroth and Baron Mundy.



Gymnasium, Griesinger always had the reputation of being first in everything, without appearing to work any harder than others. In the spring of the year 1834, he entered the University of Tubingen. At the completion of his studies here, he repaired to Zurich, to attend upon the instructions of Schonlein. The clinics at Zurich were at that time attracting much attention by the brilliancy of Schonlein, and Griesinger availed himself of these advantages in further completion of his studies.

In 1838, he took his degree at Tubingen, with a dissertation on diphtheritis: a disease which was ultimately to demand his own life. After remaining for a time in Paris, he settled as a practising physician in Friderichschafen. Here a circumstance occurred which was to influence in a most extraordinary manner his future course of life. He was advised by his friend Wunderlick to take the place of assistant physician of the institution for the insane, at Winneuthal, in Wurtemberg, and he followed the counsel. Here a new world was opened to him, into which he entered and labored with great enthusiasm and an undivided interest. Here he formed the most intimate and friendly relations with the medical superintendent Dr. Zeller, which continued to the end of his life. Later, he often spoke of the happy days he spent in Winneuthal, as the brightest of his life. After his marriage, his first care was that his wife should visit this beloved place with him, and learn something of it, and of Zeller. And subsequently when in Cairo, uneasy and depressed by the weight of his position, he was often heard to express a wish that he might ultimately find a place of rest in Winneuthal. That these heartfelt and friendly relations between him and Dr. Zeller should have continued so strong to the end, is made more curious by the fact that they entertained the most diverse religious sentiments.

Griesinger's life and labors at Winneuthal cannot be better pictured than they are in the words of his honored teacher, Dr. Zeller :

From the first to the last day of his sojourn here, his was an earnest, happy, humane and scientific life.

Owing to the manifold and fundamental differences in our spiritual views, we were frequently led into the keenest controversies ; but these were conducted in such a manner as never for a moment to disturb our most friendly relations. With the largest measure of spiritual capacity, and the quickest appreciation, which enabled him to grasp and overcome all obstacles and to work out his conceptions with the greatest rapidity, he threw himself with youthful manliness, earnestness and fire into this new department of science. He sought no pleasure aside from the extension of his scientific knowledge and experience, and especially he loved psychiatrie and the ward duties of the house. At no time did he allow his attention to be drawn from these by any new appearances or movements upon the broad field of natural science, poetry, philosophy, or history. It was a luxury to have him for an assistant ; a word, a thought, was at any time sufficient to draw from him, in the shortest period of time, a written treatise in entire conformity to the special intention ; so that I have frequently said to him in jest, that were I Prince Metternich, I should have him for my cabinet secretary. When he separated from here, he said, though he seldom gave utterance to his feelings, that his sojourn here had been the happiest period of his life. I was disappointed that I was unable to retain him. He continued devoted and true to us, and we to him.

After Griesinger had labored two years (1840, 1841) in Winneuthal, he repaired in 1842 to Paris—and on his return resided for a time in Vienna, and then settled in Stuttgard as a practicing physician. Here he commenced to write his Manual, "The Pathology and Therapeutics of Mental Diseases," the materials of which he had previously prepared in Winneuthal, and it was printed in 1845. In the meantime, he had been invited by Wunderlick, then Lecturer at Tubingen, to become his clinical assistant ; he accepted the call, and continued three years in this position.



In 1847 he was named professor extraordinary, and the year 1849 brought him a call to Kiel, as ordinary professor of the hospital clinic, and member of the College of Health. In Kiel he only continued from September, 1849, to the beginning of May in the following year. During this time his marriage took place.

About the 1st of May, 1850, he resigned his place at Kiel, to accept a call to Cairo, as president of the council of health, director of the school of medicine, and body physician to the Viceroy of Egypt, Abbas Pasha.

He continued two years in Cairo, but was not satisfied with his labors, as everything relating to science was on so very imperfect a foundation as to render any special efficiency impossible. He returned in the year 1852 to Wurtemberg, and after his return to Stuttgart, he wrote his treatise on infectious diseases.

In the spring of 1854 he became professor of the clinic at Tuebingen. At the same time he entered into relations with the institution for idiots, at Mariaburg, and here gathered the richest experience upon the field of idiocy, which he set forth in the second edition of his book in 1861. After a time, things not being in all respects as he could desire at Tubingen, he determined to remove on the first favorable opportunity, and in the spring of 1860 he went to Zurich. Here his days were delightful, and his labors were crowned with the most happy and satisfactory results. It was indeed to him a most joyous period. He took great interest in his hospital and the number of his pupils; and a call to take part in the oversight of the construction of the new asylum building, gratified the lively interest he ever manifested in psychological pursuits. The building of the institution occupied him during the whole of his sojourn at Zurich. He was a member of the committee of construction, and the work was carried on in entire accordance with his ideas.

Griesinger was twice in England, (1859, 1862,) and remained several months, studying carefully and observing the operations of the medical schools, hospitals and institutions for the insane there, and examining the great libraries. This experience he made useful in the construction of the new hospital at Zurich, for which an appropriation of three millions of francs had been made. At Zurich he was also chairman of the board of health. His interest for psychiatric researches was also shown in the organization of clinical instruction on insanity, which he commenced in the old asylum in 1863, and conducted regularly during the winter session.

In the fall of 1864, he received and accepted a call to the professorship of psychiatrie and nervous diseases in the Royal Charity Hospital, in Berlin, and in March, 1865, entered upon the duties of the position. He left Zurich with great reluctance, having endeared himself to his many friends and colleagues by his valuable labors and the beauty of his character. He loved the grand scenery of Switzerland, its mountains and valleys, and especially its freedom. But in Berlin the field of his labors was to be broader, and he sacrificed his personal inclinations to enter upon it. At Berlin he was a member of the college of health, and as such accomplished much good, for he was a prominent, experienced and practical hygienist. He developed a system of regulations respecting cholera, and later, (1866,) he was chosen president of the cholera congress at Weimer. He also founded the Berlin psychological society, and established his new journal, "*Archiv fur Psychiatrie und Nervenkrankheiten*."

During his sojourn in Berlin he paid visits to France, England, Holland, Belgium and Italy. He went to France and England to effect a closer union of members of his specialty, and to bring about a meeting of them.



He corresponded with physicians in America,\* and it was a cherished scheme with him to bring about a national congress of psychiatrists, to assemble in Switzerland; but alas! the Swiss that so loved Griesinger were never again to behold the clear eye or hear the loved voice of their dear master.

His health during the whole period of his sojourn in Berlin had apparently been undisturbed. On the 2d of June, 1868, he was first taken sick at Vienna, whither he had been called on a consultation. A few days after his return, on the 4th of June, he was under the necessity of taking to his bed with symptoms indicative of an attack of perityphlitis. This condition appeared to improve in a short time, and he left his bed, and went out, but was seized with an attack of syncope, and was again obliged to take to his bed, which he was destined never to leave. In the further progress of the disease there appeared a swelling in the right hypochondriac region, the nature of which was at first doubtful; later, fluctuation became apparent, and it was opened by Dr. Rosser, and exit given to a large quantity of pus. After this the healing process seemed to progress favorably for a time, but alas, the wound took an unhealthy appearance. Diphtheritis supervened, and his strength seemed to fail. To complete the measure of his sufferings, there arose, even after the wound had assumed a more healthy appearance, symptoms of paralysis, which Dr. Welms, who attended the patient, recognized as diph-

\*In a letter to us bearing date December 7, 1867, he says: "I wish strongly to pursue the progress of science in America, and to entertain scientific relations with your country. I hope to make a journey to America in the autumn of 1868, to make the acquaintance of men, and institutions of mental science. Always dispose of me where you think I can do anything to support you in your endeavors for the psychiatric clinics."

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theritic. In the mean time the paralysis became progressive, and finally seized upon all the voluntary muscles, and he became entirely helpless. It was with great difficulty from loss of voice and defective articulation, that he could make himself understood by his wife. Finally the muscles of respiration were seized, and then followed a protracted and frightful condition of impending suffocation, which only gave way a few hours before death. At the height of his paroxysm of suffocation, one of his friends standing by his bed, asked him if he suffered intensely: he replied as courageously and unsubdued as ever, "It is perhaps to close the scene."

A post mortem examination of the abdominal cavity revealed the fact that the abscess in the right hypochondriac region was the result of perforation of the appendix vermiformis.

Griesinger's death as well as his life was courageous, poetic, beautiful. He continued at his post working manfully to the end. Even while suffering the most intense bodily agony, he was constantly dictating to his faithful wife, who had to be both nurse and secretary. He said to the young physicians who gathered mournfully about him, "I have done my duty, go ye and do likewise!" As his life was poetical, so also was his death; and in his last hours he gave proof of what he so often confirmed by his actions during life, that inspiration is not a piece of merchandise to be kept stored away for many years. A few hours before his death he called his beloved wife to his bedside, and repeated, with tongue half paralyzed by diphtheria, the words of Heine:

*"One post is vacant—the wounds gape, one falls and another advances, yet I fall invincible and my weapon is not broken—only my heart breaks."*

Two hours before his death he longed for the time to



come, and said, "two hours yet." Soon after this he was heard to whisper his last words: "My spirit begins to wander."

Griesinger cherished poetry and felt its inspiration, and frequently sought by it to sweeten the prose of every-day life. After a hard days work, and when he was about to steal from the hours that should be devoted to rest, and betake himself to some new and wearisome task, he would repeat the words of the great poet which were ever in his mouth. "The traces of my earthly days will not be lost in the infinite." No, the seed of Griesinger's earthly life will not be "lost in the infinite," but will spring up in other spirits and bear abundant fruit.

Venerated man! In distant lands other eyes than those that have "seen your face in the flesh," moistened, and other hearts than those of your countrymen were made sorrowful at the tidings of your early departure.

After this brief biographical sketch of Professor Griesinger, let us endeavor to unfold to our readers something of the character of his mind, and the means by which he was enabled to accomplish what he did; not that we are in a position, or have the disposition or space to follow him, only so far as may be necessary to furnish an index to the moral and intellectual affluence of the man; and to this end we shall make free use of such materials as are furnished us by those who knew him well.

Griesinger's first independent studies, says Dr. Westphal, commenced at a time when German medicine was just beginning to emancipate itself from philosophy, and was striving to take a legitimate rank with other sciences. It was Schonlein who bore the new banner aloft, and Griesinger followed with enthusiasm. Schonlein had already made the way of simple, natural observ-

ation plain, and while he was at the bedside engaged in practical treatment he was far from being speculative; but away from the bedside and in the professor's chair he appeared quite another person, and was full of theories which bore the impress of natural philosophy, and of the truth of which we must believe he felt a conviction.

When we mention Schonlein in this place, it is to show that Griesinger was influenced by him, as a young man, in his studies; but this was only to a certain extent. Schonlein laid little stress upon the influence of bodily diseases upon mental disturbances, while Griesinger, on the contrary, was fully conscious that only by the methods pursued in the investigation of other natural sciences, could any real advance be made, and continued to act in this belief to the end. (See his observations on the diagnostics of diseases of the brain. *Archiv fur Heilkunde* 1862.) Still he possessed a strong aphoristic and speculative element which was hid under the new drapery of the so-called physiological medicine.

Always full of spirit and activity, he had as early as 1843 sought to trace analogies between certain simple physiological and mental phenomena, and brought forward as examples to illustrate his views, the analogy of exertion of the will with the motor nervous muscular action; showing that they belonged in the same category; that the conditions of fatigue and paralysis had their mental correspondents in weakness and loss of will; that tonic convulsion had its mental correspondent in persistent inflexibility of purpose; convulsive movements, in undirected impulses, desires, inordinate actions, &c., &c. To these speculative views he attached great importance, while we, on the contrary, must say, that merely a similarity and scarcely an



analogy can be said to exist, and that the genuine advancement of knowledge cannot be obtained by pursuing this path. Indeed, we have now become rather distrustful of such constant speculative views, inasmuch as we perceive the danger of their leading to what has merely the appearance of knowledge. These speculative, philosophical elements took a firm hold of all his subsequent labors, and were made useful even when he had, at the same time, to deal with well-established matters of fact: they were inflexible. Before everything else, it was this quality which enabled him so readily to recognize and establish general principles from a series of separately observed facts, and which put him in a position so to arrange the facts as, from a general point of view, to elicit the spirit of them as a whole. So from his very nature he was formed for and drawn to authorship, and to the dedication of his powers to the preparation of his text-book; and we must here remark that his brilliant qualities are indeed the most apparent in this work.

It is easily explicable, in view of such gifts, how Griesinger, as a young man, and after a relatively short period of observation, (only two years,) was in a position to write a text-book on psychiatrie, with which all earlier works are not even in a remote degree comparable, and which was for the first time a development of genuine scientific materials. Although the psychological basis on which the statements are essentially formed, cannot now be regarded as fully fixed and authoritative, it must, on the other hand, be admitted that for unity of design, and for the setting forth of facts now well established, it has not been surpassed, and the last edition (1861) is undoubtedly the best text-book on the subject extant, and its translation into both French and English furnishes ample proof of this.

The same also may be said of his work on infectious diseases, one of the best books on the subject in Germany.

The path of pathological experiment which belongs to modern times, he had never trod; and little did it seem to be his disposition or natural inclination to conduct the details of any special research to the solution of some distinct problem. His whole scientific individuality had something of a contemplative character. He felt the irresistible charm of natural research, and was able to turn the whole power of thought upon the elucidation of whatever came before him. He seized upon all new facts with enthusiasm, but they were made subservient to the establishment of great general principles; this done, they lost their charm, and were forced into the back ground. As the result of this disposition he was inclined in the beginning of each session, to set forth in an introductory lecture such general views and changes as the development of new facts had in the mean time brought about. He had also, at least in his clinics for psychiatrie and nervous diseases, a decided predilection to depart from the general description of disease and turn to the elucidation of special cases. On the whole, we may remark, that his genius was not in all respects such as is congenial with the pursuit of the pure natural sciences, but partook largely of the philosophical and historical. He was often heard to express the wish to his wife and intimate friends, that after a few years he might be allowed to retire to some secluded spot, and spend his life in philosophical rest and contemplation.

To the gifts mentioned above there also belonged a marked poetic element. His discourses, always beautiful, and in form complete, had in them something elevating.



The same element was also manifested in his conversation, and at such times the expression of his countenance was striking, uncommon, and not easily described. Not unfrequently his conceptions took a poetic form; and he seldom took leave of the natural scenery of Switzerland at the end of his holiday journeys, without giving expression to his feelings and his longings after the glories of nature in a poem. These poetic elements, taken in connection with the above gifts, lead us at once to trace a family likeness between him and the great Swabian poet, his countryman.

There is no department of medicine to which the above described mental disposition was more thoroughly adapted than that to which, interruptedly, it is true, but ever with a strong preference, he devoted himself, and of which, in the midst of other occupations, he never lost sight—"The peaceful shore by which the stream of psychical phenomena flowed." Psychiatria, about to take its place as a branch of medicine, poor, often beggarly poor in facts, necessarily demanded the *a priori* method of reasoning; and this being the case no criticism was justifiable so long as known facts were certified by the laws which properly governed them. This last was ever done to the full extent by Griesinger. Blame attaches only to those who, in collecting new facts failed to separate them from theories, and so embarrassed all free observation: such was not the case with Griesinger, at least in a prominent sense. Rich indeed, was he in theories, which he disseminated with a free hand, although psychiatria was then barren of facts: and if his theories were not always sustained by facts of later observation, they were still not fruitless, inasmuch as they provoked a more thorough investigation. In making the first scientific arrangement of existing facts, and in enriching psychiatria with his own

numberless and prolific ideas, he laid the foundation for its future development.

Not content with rendering his science mere literary service, we henceforward find him laboring to make the young generation familiar with this new department. For more than ten years, he added to the ordinary duties of his calling, as clinical physician, the delivery of a series of lectures on psychiatria, and as often as opportunity offered, selected cases of psychical disease for subjects of clinical demonstration. Later, in Zürich, he manifested equal zeal in sustaining a psychiatric clinic during the winter. That his efforts to form and perfect a system of psychiatric instruction were crowned with success, is evident from the fact that soon after his removal to Berlin, a clinic for nervous diseases was established in accordance with his expressed desire, and became at last an integral element of his psychiatric teaching. It had indeed been repeatedly declared by those who understood the matter, and by others, who merely repeated without understanding, that the so-called psychiatric diseases formed only a portion of the diseases of the nervous system.

By no one, however, was the connection between the two departments of nervous disease so deeply comprehended, so vigorously emphasized and so clearly demonstrated as by Griesinger, and he was the first, not only to establish this connection firmly, but to make it evident to the world. What others talked of he accomplished, and the beneficent results of his action to science and to medical practice are incalculable.

If the study of scientific psychiatria was greatly advanced by this innovation, he introduced another, of no less importance to the practical, forensic problems of psychiatria. At his suggestion, the government provided that in cases of doubtful mental condition of per-



sons charged with or convicted of crime, the courts should not be called upon to pronounce "yes" or "no" on the question of sanity or insanity, till the patient had been subjected to sufficient observation in an asylum to enable the physicians to form a correct opinion as to the mental condition of the accused. We need not speak of the judiciousness, indeed, necessity of this measure, says Dr. Westphal, as the accused persons were placed for purposes of examination in the insane department of the "Charité;" and a great advantage was secured in thus providing material for instruction in the important branch of juridical psychiatria.

The labor which it cost Griesinger to perfect his reflections and embody them in fixed opinions is not fully appreciated; he applied himself to his work with the youthful freshness and activity which characterized all his actions. While many of his opposers were inactive, and failed to appreciate the importance of a personal observation of things and their relations, he spared no pains to arrive at opinions founded on individual experience; and for this purpose he made repeated visits to England, Belgium and France; entered into personal intercourse with all prominent physicians for the insane; and corresponded with the physicians of America on subjects connected with insanity. No new experience escaped him. This theorizer, as many thought proper to call him, differed in his conception of the value of experience from those who were never weary of exalting their own practical capabilities. Perhaps none of his achievements were so entirely founded on experience as his plans of Reform. He saw that in lunatic asylums there were many individuals who were capable of a life of less restraint than that afforded by the institution, and to whom, in fact, hospital life was positively deleterious. This conviction, to the truth of which we

can all testify, took possession of his heart and brain; and his heart, especially, was an inexhaustible fountain of inspiration to him, in devising a more liberal method for the care of certain classes of insane.

In making his plans for what he called clinical and city asylums, he was led to the belief that a general diffusion of psychiatric knowledge could be reached only through clinical instruction; and that, indirectly, a decrease of the number of incurables might be secured by the original, proper understanding and treatment of new patients. It was therefore necessary that these asylums should assume, so far as possible, the character of common hospitals, into which curable patients, or such as were suffering from acute but transitory attacks could be quickly admitted, and without any troublesome formalities.

True it is, that much of what Griesinger proposed was not new, and had been often suggested, but to make this a matter of reproach is the grossest folly. What good thought is altogether new! In the world much depends on when, where, how and by whom a thing is said or done. That a man is able to say the right word, at the right time, in the right way, and from a place whence it can be heard, distinguishes him, makes him *great*, though a hundred others may have said the same thing before him. Such was the case with Griesinger. How truly he foresaw, is now conspicuously evident in the fresh impulse, the new direction given to all questions relating to the care of the insane—an impulse and a direction hitherto unknown. The opposition which he encountered will soon be forgotten, and his opponents will be foremost in their assurances of having always, in truth, shared his opinions. He was himself always conscious of impending difficulties, and used laughingly to say, that a cause unable to survive such attacks



must be bad indeed. He, who was reviled as a theorizer and an idealist, accomplished more in practical matters during the short period of his activity than any of his predecessors: he founded a clinic for nervous diseases, and established its connection with the psychiatric clinic. He introduced into the Supreme Court the practice of a personal examination of persons of doubtful mental condition, and finally—in opposition to earlier and more isolated endeavors—he formed coherent, practical plans for the reform of Insane Asylums and methods of treatment; plans which death alone prevented him from carrying into execution.

This man, whom practitioners, as they called themselves in contrast with him, scarcely recognized as a professional associate, had that within him which lifted him far above them, and which finds its illustration in the wonderful results effected by his words—a mighty enthusiasm for his conceptions and an iron determination to embody and vitalize them, which death only could defeat. During his long, painful sickness, but one thing occupied him; the welfare of the insane. In those last days he frequently gave expression to the thought that he died true to his convictions: this he wished to be known. We repeat the words of the poet, which his dying lips recited:

A post is vacant! a wide gap remaining—  
One falls, the line its onward course still takes—  
I fall, unconquered yet, my arms retaining  
Bright and unbroken—'Tis my heart that breaks.

We present the following beautiful analysis of the character of Prof. Griesinger, by Prof. M. Lazarus, taken from the "*Archiv. fur Psychiatrie.*"

We have applauded Griesinger's aspirations in the department of science; we must not forget his executive power: we must com-

pare his accomplishment with his endeavor, not for the sake of acknowledging his merit, but for the purpose of appreciating the valuable results of his work.

Your familiarity with his psychiatric achievements I presuppose; but I cannot forbear glancing at the history of his *psychiatria* and at its comparative position. My views of the matter do not altogether harmonize with those of the previous speaker, and especially do I consider that it was not the comprehensive, philosophic mind of Griesinger which prevented him from making further advancement in the special domain of facts. Rather state the case in this way: were the abstract question put to us to-day, What position does *psychiatria* hold as a science in regard to the ideal of such a science which a comparison with other branches of medicine would lead us to form? We should say unconditionally, it occupies a very low place. This I say absolutely when the question is put wholly in the abstract. The matter assumes another aspect when taken in the concrete. Already has the subject been elevated through Griesinger's text-book, which, up to the present time ranks pre-eminent, and has been selected from a mass of cotemporaneous and later works as superior, both for practitioners and university teachers. The classifications arranged by him are still considered the most authentic in practical, as in forensic medicine.

The essential point, however, lies not in the relative value of his psychiatric work, but in its having effected a significant advance over all previous attainment.

And this advance, so far from being made in spite of his philosophical tendency, was to a great degree the result of it, and eminently so, in that he for the first time introduced a theory of psychiatric instruction into medicine. A theory at once fruitful and plastic, and which, although the certain issue of philosophy, was profitable for medicine and for practical psychology.

And what have unphilosophical physicians accomplished? What could they accomplish? Consider only the state of opinion in regard to intellectual operations which prevailed at the time when Herbart and his school were abandoned. Dominant among physicians and laity was the familiar theory which maintains that man knows nothing whatever of psychical processes, that he may not speak of psychological laws, and that an analysis of intellectual operations as apprehended by the simple, popular consciousness, is impossible. Bewildered by a contemplation of the varied forms of intellectual life, man collects under a common name much that is



homogeneous, or appears to be so, and then declares that, in order to be able to do all this, the human being is endowed with certain powers. Hence exist understanding, reason and an appetitive faculty. But if sickness intervene, what then? First of all arises the great question of the *mind's* capability of being diseased, and is met by such answers as these—the understanding was strong and is become weak, it was normal and is abnormal, &c.

Gentlemen! no practical knowledge can be associated with such ideas, for they make any analysis of what we have before us impossible. If we do not first understand single processes and acknowledge simple laws, a true comprehension of a complexity of phenomena is unattainable. Such a theory of psychical processes was merely adduced even by Herbart, and Griesinger, in the preface to his work, makes immediate mention of having introduced it. Without such a theory, it was actually possible for the empiric Heinroth to attribute all disease to sin and misery. Moreover, what hindered the empirics from discovering another and a better theory than that of the philosopher? What hinders them now, and where are their achievements?

But at that time medical matters were in no way so disposed as to render philosophy a hindrance and a stumbling block. Did not Schonlein belong to philosophy, and truly to philosophy of the best sort, natural philosophy? Did he not begin as a natural philosopher, and quickly come to the point of seeking to establish the true method of obtaining knowledge, namely, the contemplative? The people were in truth hindered by popular imposition, by such methods of observation as were taught by Rademacher. Rademacherism, crude, common, unscientific empiricism.

That psychiatria has not attained the character of a science, is owing to an outward, superficial way of regarding the individual patient, and even of classifying him. Then with all analytical knowledge there must be a beginning, and this is of course impossible without categories of positive data as a means of observation. Truly, progress is a very slow affair. Indeed, a pure psychological theory would affect nothing for psychiatria. So long as we consider the nerves by themselves, and the soul by itself, so long as in our discussions we place thought and intellect on one side and the body and its organs on the other, regarding their union as a sort of riddle; so long as we do not fix our attention on the continually perfecting process between them and the enlightenment it brings, so long can neither psychology nor neurology accomplish anything for psychiatrica.

What we need and hope for—and who ventures to speak of more than mere hope in connection with psychiatria—are the investigations of psychosomatics. Before psychology, were these investigations as a general thing imaginable? or to substitute a more important question; have not these studies rested on psychological theories? Was not the chief work of Fechner immediately attached to Herbart's theory?

Moreover, Griesinger rendered psychiatria a second and very essential service, and one which physicians should be the last to forget, in connecting it with pathological anatomy. Not that this has as yet been very productive of results for the science of disease or for methods of cure, but independently of present results, this study has been, and ever will be indispensable to the development of psychiatria. Who will deny that all physical investigations in connection with psychiatria, especially those relating to its therapeutics, have without exception been as unproductive as a pure philosophical treatment of the subject could ever be? This, however, will hinder no philosopher from considering versatile physical investigation as an indispensable condition of future progress.

And here it is important for us to know how the matter stood at the time when the first edition of Griesinger's work appeared. Conscious of doing a conspicuous thing, he made a proposition in his preface, which we have come to regard as so self evident, that we fail to see in it any special claim to significance or praise. He said that he should make an attempt to bring therapeutics into a much closer relation to pathology than had hitherto been done. Imagine what must have been the condition of therapeutics when the establishment of its closer connection with pathology was spoken of as an experiment. How different the present attitude of theories! Therapeutics without constant reference to pathology, pathology without reference to physiology, that is, the knowledge of morbid and abnormal processes dissociated from those that are normal and healthy, is to us inconceivable. For the treatment of mental diseases we need a physiology of the mind, and this is psychology, which even in the second decade of our century was made to answer the demands of physical science, but was first associated with medicine by Griesinger. We hope for such results here as have been experienced in the department of physiology, (the bodily organism;) originating in the pathological medical interest, the investigation of healthy processes has been constantly attended and benefited by the investigation of diseased processes. Would that psychology also might be widened and deepened through psychiatria.



So thought Griesinger as here, in Berlin, he took hold of this department afresh. It was a laudable act of ethical self-restraint for him to give up his general clinic, and the corresponding branch of teaching, in order that he might work the more energetically in this field. He not only desired to devote himself to the practical side of the subject, in connection with which he had reached new conclusions, but to a system of constant theorizing.

The new report which he established bears witness to the fact that he had reached the point of treating mental diseases as only a part of nervous diseases. Alone in his hands, the idea was not dangerous; but in making it public the necessity of uniting with it an understanding of diseased mental phenomena, should have been everywhere urged. There is intrinsic danger in this principle—the danger of neglecting the psychological side afresh. In this case, however, the knowledge of the mental disease would be as far from exact, and as little productive of favorable results, as if the point of view were purely mental. Above all things, an advantage would be forfeited by which it is high time that we profited. One may treat mental disease as nervous disease, but not alone in that, are psychological processes and laws to be found; medicine has long owed to it psychology to study psychical phenomena in other, and especially in nervous diseases; an old obligation which medicine shows no intention to discharge. Mere physiologists, have so far as I know, greatly profited by those investigations which are known under the name of psychosomatics. If physicians would but learn of the psychologist, they would continually acquire a desire to teach him in turn, and a capacity for doing it. The sick bed is an important post of observation from which the psychologist is excluded, and it therefore devolves upon the physician to make it useful theoretically.

To this end was Griesinger especially inclined and devoted: not only a profound knowledge of psychical phenomena, but a conspicuous interest in them, was peculiar to him. He could be interested to the remotest degree in the detail of the patients' delusions. He had the mind and tendency of a true, and as men say, a born psychologist—others as well as himself, he continually observed, in health and in sickness, in all conditions of mind and body, from every point of view and according to all phenomena.

Just as among physicians for bodily ills, we discriminate those who, themselves often sick, are tender, sympathetic, and able personally to appreciate a variety of conditions in their patients, from those who, strong, robust and never suffering, know but from hear-

say of many symptoms, troubles and perceptions of the sick, and are incapable of imagining themselves in their place or of exercising any intuitive sympathy; so in psychical observations much will depend on the character of the observer—whether we have a cold, coarsely-constituted soul, or a warm, tender, delicately-organized nature.

Griesinger retained unimpaired a vitality of mind and soul, a youthfulness of comprehension and a student's power of receptivity. At the sight of a patient, the desire to discover something new, interesting and remarkable, controlled him to a degree that led him to the verge of error, so strained was his eagerness for instruction; but the first tension relaxed, he invariably saw the truth.

He particularly excelled in the art of listening. We can all of us see him still, as covering his eyes with one hand he listened to the expositions in the Society, justly estimating each opinion, and in *resumé* or reply giving emphatic prominence to the valuable thought of others.

Foreign inquiry was not only accessible to his thought, but he sought it; he knew nothing of unyielding technicality. Thanks to his susceptibility of fresh impression, he ever examined the questions relating to the condition of the insane with renewed zeal. His opinions on that subject did not remain fixed: his first convictions were not his last, and he spoke of each altered conclusion with the greatest frankness.

And here let me mention this: so timely was his prudence that, in introducing the "non restraint" question into the first edition of his text-book, he brought forward the arguments for it, and then, with still greater zeal and energy, he stated all the reasons that had been urged against it, and finally made them his own; nevertheless he closes with this idea: many experiments must be waited for before the question can be decided. If these experiments failed to sustain his theory, seeking as he did every opportunity to make them personal, the way was thus left open for him for adopting opposite opinions.

Gentlemen! we admire consistency when, through an increasing and ever changing knowledge of facts, it abides by enduring principles; we admire it then the more, when it puts itself in the place of absolute truth, and, resisting all egotistical sophistry, creates out of the strength of personal conviction, a power of assimilation, which exceeds the mass of that originally inherent in principles. We admire, I say, consistency; but we reverence that love of truth which, constantly open to inquiry, is ever ready to



recognize any idea which occasional experience and argument may offer as true. To be *consistent* for a good reason is fortunate; to be *inconsistent* for a good reason is meritorious.

This very question in which Griesinger's inconsistency of opinion is so conspicuous, namely, the reform of insane asylums, is become, as you sufficiently know, a subject of immediate contention. In the midst of the fight the champion is fallen. There are men who will not fail to take up his arms. Never yet has a thought, having intrinsic life, been permanently abandoned for lack of supporters and defenders. And the fight will be fought out and the goal reached. For in the province of the mind a law of development has been long recognized, which, transferred to the department of organic nature, creates a result so legitimate and important and which is lauded as a discovery: in mental matters it is no recent conviction that the noblest creations are the result of conflict; only through contending opinions, only through the criticism and strife which they evoke, is advance in knowledge promoted. Arguments are arrayed against each other; and the deepest, the most forcible, the clearest arguments will invariably prevail. Conviction is led against conviction, and the best, the noblest, the most luminous conviction will ever unfurl her banner as victorious truth. Therefore, let the one or the other side be temporarily—why do I say temporarily?—let the one or the other side be in the future victorious; the merits of him who has fought with so much earnestness and energy will remain the same; for he has ever battled for the truth, and only through strife is the truth gradually revealed.

The last, the true acknowledgment associating itself with this life, will be that to future eliminated truth may be confided the memory of him whom we are met to-day to celebrate.

But a few months have elapsed since the death of William Griesinger, yet his life and works have received public notice in Prussia, through Hoffman, Westphal and Lazarus; in Saxony, through his devoted friend Wunderlick; in England, through Maudsley and Sibbald; in France, through Morel and Brierre de Boismont; in Italy, through Livi; and in America, through the Editors of the JOURNAL OF INSANITY. Austria has also hastened to pay honor to the memory of this

learned friend of humanity. For this purpose more than three hundred medical students assembled in the audience room of Professor Dr. Skoda, in the General Hospital at Vienna, on the 13th of December, 1868; Professor Billroth took the chair. The Rector Magnificus, Professor Karl Braun, and many professors and doctors were present. An introductory speech was made by the presiding officer, and Dr. J. Mundy delivered a memorial oration. Professor Billroth spoke as follows:

“The commemoration of distinguished men, in speech or writing, is so ancient a custom among all civilized people, that we may well regard it as an essential element of æsthetic culture. To honor the memory of a man who belonged to the narrow circle of our scientific fraternity, is for our faculty a sort of family solemnity.

So let me regard the present occasion, the commemoration of William Griesinger, in which our honored associate, Baron Mundy, has desired me to take a part. In yielding to his request that I should take the initiative to-day, I owe you an apology, inasmuch as psychiatria, the specialty through which Griesinger was best known, is a subject with which I am not familiar. My apology finds best expression in the intimate personal relations which I had the good fortune to sustain towards the deceased.

Easter, 1860, we were both summoned to Zürich, where, for nearly six years, we worked, not only near each other, but I may well say together. Chief among many reasons for making those years memorable, I am proud to count the formation of my friendship with Griesinger, a friendship which lasted to the end of his life.

The faculty in Zürich was oddly composed: three Swiss, Locher, Cloëtta, Horner; two from Frankfort, Frey and Hermann Meyer; one Hollander, Moleschott;



one Hessian, Adolf Fick; one Bavarian, Bernhard Breslau; one from Dessau, Edward Rindfleisch; one Swabian, Griesinger; and myself a Germanized Scandinavian.

Griesinger soon became the soul of the corporation in which there had as yet been no violent dissension. His unsurpassed mental influence, his power of analysis, his clearness of thought, his sense of right, his objectiveness, his rich, well methodized and ever ready experience, made his word so effectual in controversy, that decision quickly followed his speech. This is certainly much to say in a corporation where a varied German nationality was represented by so many young, active men.

How shall I describe the peculiar, deep impression which Griesinger made upon me? I can give you no better idea of it than by assuring you that during the years of our life together, I never came in contact with him without receiving something from him. He was intellectually so rich that he unconsciously endowed all those who understood him. His highest capabilities were devoted to the thoughtful contemplation of nature, to the consideration of the sick person as an object of nature in all its human relations, to the thorough study of every such object, and to the examination of the combination of natural phenomena of the so-called symptoms of disease. It is evident that this method was directly opposed to the modern plan of learning everything by steam, and so making the brain a mere repository of excerpts. Hence arose many of the conflicts in which Griesinger engaged. Whoever suddenly assailed him with twenty questions and expected to receive immediately, clever and convincing answers was greatly deceived. The intensity and conscientiousness of his thought made this impossible. Often in hastily interrupting Griesinger about this or that important

question, I seemed to see written on his features the words that Lessing puts in the mouth of Nathan after his first conversation with Saladin: 'What will the Sultan have? Truth! truth! and will have it as bare and as bright as if truth were coin! Yes, as if it were weighed as is ancient coin! that might be deficient. Such new coin as only the die makes, as one pays at the counter. One should put truth in his head as he puts gold in a sack.'

Griesinger was conscious in each instance of the limits of our knowledge and skill, yet he never despaired of investigation. His motto to the last was, "Seek and ye shall find: Knock and it shall be opened unto you."

Investigation is in itself deliverance and salvation, gentlemen, to him who diligently follows it.

To the striking and bold thought of the philosopher, Griesinger united the tender imagination of the poet, and the dream-like sense of a child.

We stood together before the eternal ice fields of Mount Rosa, Mount Blanc and the Bernese Alps, we passed by Titlis, the meadows carpeted with cowslips and gentians, to the Engstlen Alp, and were ferried across in the "light canoe" from Canton Schwyz to Rütli.

I shall ever remember one summer evening in Seelisberg, when we leaned against the railing, and silently gazed into the deep green waters of Lake Lucerne; to the right, over Altdorf, the peaks of St. Gothard glowed in the evening light, to the left the Mythen cast its deep blue shadows over Brunnen and Schwyz!

The stillness of the forest was around us—wonderful enchantment! In such hours soul communes with soul—a hundred years cannot efface their remembrance.

What Griesinger as a full and complete human being was to his friends I know full well, although no language is adequate to express my thoughts.



What Griesinger accomplished as a man in the Department of Science to which he devoted the greater part of his life, can be told you by Dr. J. Mundy, who shared his aims and was his true friend."

The oration of Baron Mundy, is made up largely of the facts and incidents in the life of Professor Griesinger, already given above by Dr. Westphal. We cannot forbear, however, quoting in conclusion his beautiful exordium:

"The learned clinical instructor of the Berlin Charity, and the excellent man, whose early death science and humanity mourn, shall himself indicate the manner in which I may be permitted to speak of his life and works. On the occasion of a memorial oration on Schonlein, in Zürich, in 1864, he spoke with me of the spirit in which such subjects should be treated.

He was of the opinion that 'above all things, while seeking to delineate the works of a man, we should neither speak hypercritically or praise with undue ostentation; but should be satisfied if, after a simple picture of the life and labors of the deceased, the young auditors should leave the hall with the impression that one should not live merely for acquirement, but for the fame of the same, and, he concluded, this fame must be a means by which his work can be advanced.'

Indeed, gentlemen, as Griesinger uttered this we were reminded of that Roman who began a memorial discourse on a dear one departed with these remarkable words: 'Assuredly a great and good man is not made glorious by empty praise, or by incense rising to the skies, but by an imitation of his life and a continuation of his labors.'"

LIST OF THE PUBLISHED WRITINGS OF PROFESSOR  
GRIESINGER.

1838.—Inaugural Dissertation on Diphtheria.

1842.—Herr Ringeis and the School of Natural History. Upon Pain and Hyperæmia. Heine. Physio-pathological Studies, from the life of father and son, (a Memorial of J. G. Heine, the orthopædist.) Answer to Dr. Eisenmann.

1843.—On Psychical Reflex Action, with a glance at the conditions of psychical diseases. Observations on the Modern Developments of General Pathology.

1844.—New Contributions to the Physiology and Pathology of the Brain.

1845.—Upon Scrofula. The Pathology and Therapeutics of Psychical Diseases, (1st edition.)

1846.—On the Anatomy of Acute Rheumatism, with especial reference to the writings of Gottschalk. Setting forth of Rheumatic Disease on an Anatomical Basis. Upon Acephalocysts of the Heart.

1848.—On the Revision of the Modern Materia Medica.

1852.—The Anatomy of Bilious Typhoid, (a dissertation before the Imperial Academy of Sciences of Vienna.)

1853.—Clinical and Anatomical Observations on the Diseases of Egypt, (with two continuations of the above.)

1854.—Continuation of Clinical and Anatomical Observation on the Diseases of Egypt.

1859.—Studies upon Diabetes.

1860.—Diagnostic Observations on Diseases of the Brain. The Protracted Form of Rheumatic Brain Affection. Supplement on Diabetes. Resumé of Seventy-two Cases of Pneumonia. On the Clinical History of an Enlargement of the Liver by Multifarious Echinococci.

1861.—Upon Spotted Fever.

1862.—Continuation of Observations upon Diseases of the Brain. Cystercerci, and their Diagnosis. On the Doctrine of Disease of the Brain from Internal Otitis. Aneurism of the Basilar Artery. Tetanus, with peculiar condition of the urine, together with observations upon the disease. Prof. Skoda on the Causes of Typhus.



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1864.—Adenoid of the Liver. Abstracts from Clinics at Zurich, (in archives for physiology.) Infectious Diseases, (1st and 2d editions,) in Virchow's Manual of Special Pathology and Therapeutics, (translated into French, English and Italian.) The Pathology and Therapeutics of Psychical diseases, (2d edition, translated into English, French, and Italian.) An Academic Discourse in Commemoration of Schonlein.

1865.—Upon Muscular Hypertrophy.

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I. *Reports of English Asylums. Report of the Committee of Visitors of the Lunatic Asylum for the City and County of Bristol to the Town Council, January 1, 1868.*

Dr. Henry Oxley Stephens, Superintendent of this Institution, reports on the books Dec. 31, 1866, men 110, women 106—total 216: admitted in 1867, 86, of which 12 were re-admissions: discharged recovered 35, relieved 8, removed 10: died 23: remaining Dec. 31, 1867, 226. Of the admissions 48 were chronic cases. It is notable that the "Visiting Commissioners in Lunacy," in their Report remark: "A large proportion of the cases are mentally in a very unfavorable state as regards the probability of their ultimate cure, but they require for their treatment all the appliances which an asylum can afford; and we saw few, if any, whose removal to a Workhouse would be desirable."

The Town Council is asked for an appropriation of £3,000 to enlarge the accommodation. The Visiting Commissioners recommended more frequent "entertainments," and a piano for the Hall; though the Superintendent prefers to this the formation of a "Band" from among the attendants and more intelligent patients.

Some criticism was expressed as to giving the patients a soup or stew on Fridays, which, though good in quality, was objected to by patients, (better favored than *Oliver Twist*, perhaps:) "In the summer and autumn months baked rice-pudding, followed by a ration of bread and cheese is substituted for soup." The statistical tables are very full, in which we observe that intemperance, mental anxiety and paralysis figure



as largely among causes of insanity as they do here, but "puerperal" and vicious life rather less.

II. *Twentieth Annual Report of the Somerset County Pauper Lunatic Asylum for 1867.*

Dr. R. Boyd, the Physician of this Institution, reports December 31, 1866, patients 487: admitted in 1867, 167: discharged recovered 79, relieved 12: not improved 2: died 48: remaining January 1, 1868—males 223, females 209—513. All but 16 per cent. are chronic cases; 26 per cent. idiots and epileptics. Dr. Boyd says he could furnish 50 patients and the union workhouses about 170 more for a new idiot asylum, if one should be built, which is a desideratum.

Dr. Boyd reviews the history of 20 years since the Asylum was established. He proposes increasing the accommodations of the whole Institution to the number of 800. He recommends provision to be made for the reception of a class not to be reckoned among paupers strictly, but yet without means sufficient to support them at private asylums. The five counties of Cornwall, Devon, Dorset, Somerset and Wilts, report 1,158 idiots in a population of nearly two millions, though in union workhouses, many adults are counted idiots who are simply chronic cases of dementia.

Dr. Boyd also makes some valuable suggestions on the subject of medical relief for the sick poor, as a preventive of insanity. He says:

Insanity is often the result of bodily illness, and the disorders of the mind would be mitigated, and the pressure on county asylums lessened, if proper nursing, and medical necessities were liberally provided at every Union Workhouse. A more liberal provision for the poor in sickness would diminish the number of candidates for the asylum. It should always be remembered that the sick ward of the union is the proper basis of all cure for the sick poor. The question may now be considered in what light is insanity to be

regarded, whether altogether as a specialty, or as it more frequently appears to be, merely a symptom of physical disease. The most experienced medical men are of the latter opinion. Our knowledge of the nervous system is still incomplete. Upwards of 900 cases that have died in this institution have been examined by me, besides a considerable number previously in the St. Marylebone infirmary; no special changes were detected to account for the disorder of the mind, but it was generally associated with bodily disease. Insanity may therefore be considered as more sympathetic, or as it is commonly termed functional, than organic, according to my experience. General paralysis of the insane, is, however, an exception, as I shall point out in the second part.

The microscope would probably have enabled Dr. Boyd to detect "special changes" to "account for the disorder of the mind." He very justly remarks in regard to the indigent: "The proper and most beneficial succor to the working classes would be to improve their dwellings." This important subject is attracting attention in this country as well as in Europe.

A large share of the insane poor are still in work-houses. We transcribe the following note as containing some valuable statistics on this point:

The return which has been issued by the Poor Law Board giving an account of pauperism in England on 1st July, 1867, shows that at that date there were 41,513 insane persons in receipt of relief from the poor rates, of whom as many 11,103 were in the work-houses. Four years previously, on 1st July, 1863, the total was only 36,212; the number in both instances being a little below the truth in consequence of the absence of returns from parishes not under Boards of Guardians, containing nearly one per cent. of the population. The increase, more than 14 per cent. in four years, seems large; but many who were formerly regarded as ordinary paupers, and some probably as recently as four years since, are now classed as insane, and the improved treatment of the insane prolongs life. The distribution of the insane is a subject of considerable interest. The return shows the largest proportion of insane paupers in the metropolis, their numbers on the 1st July last amounting to 24 per 10,000 of population as enumerated at the



census of 1861 (or 21.81 on the estimated population of July, 1867;) the south-midland and south-eastern divisions of England come next, with more than 23 insane paupers per 10,000 of census population; then the eastern, south-western, and west-midland divisions, with more than 22 per 10,000; next, the north-midland, with more than 20 per 10,000, and the Welsh with almost exactly 20. The north presents very different figures. In the north-western division (Lancashire and Cheshire) the ratio is only 17.54 per 10,000, in Yorkshire only 15.96, and in the northern division only 16.15. But that part of the kingdom has a small proportion of its population of all classes upon the rates. The number of paupers of all classes receiving relief on the 1st of July last was as follows:—In the metropolis, 4.50 per cent. of the population as enumerated at the census in 1861; in the south-midland division, 5.79 per cent.; south-eastern, 5.19; eastern, 6.50; south-western, 5.91; west-midland, 4.32; north-midland, 4.17; Welsh 6.12; north-western, 3.29; Yorkshire, 3.38; northern, 4.26. The insane paupers of England on the 1st of July last were one in 22 of the whole number of paupers. It is hardly necessary to say that the insane in England, or of any class in England, are not one in 22. A very large proportion of the insane paupers are paupers because they are insane, being dragged down by this misfortune into a class to which they did not belong. The Poor Law Board, giving an account of the insane paupers as a body, speak of their pauperism as “ascribable to insanity.” In fact, the insane paupers of England who on the 1st of July last were one to 516 of the estimated population of England, may be taken to comprise the great majority of all the insane in the kingdom. The Lunacy Commissioners report 49,082 insane persons in England on the 1st of January last, which would be one in 434 of the estimated population. There are private cases that do not come under their cognizance; an estimate allowing for these would be confirmed by the report on the Irish census of 1861, which, including the result of an inquiry on this particular, shows the whole number of insane in Ireland one in 411 of the population. It will be understood that in the term “insane” the idiot as well as the lunatic is included.

At the annual meeting in 1866 of the Medico-psychological Association, which includes almost all the superintendents of asylums in the United Kingdom, it was unanimously resolved, “that in the opinion of the meeting, the treatment of the insane now in workhouses is not satisfactory, and it is desirable to have the

care of all the insane poor of the counties transferred to the Visitors and superintendents of county asylums."

In the way of amusements the Institution has a band and a portable theatre.

In the close of his Report, Dr. Boyd tenders his resignation, after a service of twenty years to the County, under which this Asylum has developed to the efficiency and success of a first-class Institution.

Dr. Boyd appends to this Report a second part, which in itself may be regarded as a treatise on the subject of General Paralysis, or what is now more technically styled *Paresis*. Dr. Boyd is justly recognized as authority in this department, and his observations are well worthy of reference. We commend to the profession his views of the importance of *post-mortem* examinations expressed in the following extract:

As a rule a post mortem examination is invariably made here, and the state of the spinal cord observed. The cause of death is frequently obscure, and without a post mortem examination cannot be certified with accuracy; if it be done carefully, as a rule no objection is ever made. In every public institution a post mortem examination should be imperative, as it is the only way in which the diagnosis of the disease can be established or corrected, and it is by such means our knowledge of disease is to be extended. The public equally with the medical profession are interested. All workhouse infirmaries, for instance, should be conducted in such a way as to be made useful as places of medical education for the study of disease and morbid appearances; this would no doubt be the case if workhouse infirmaries were not under the sole control of elected boards of Guardians, who have power to close them against pupils.

The medical profession have been forced to provide other and less adequate means for the instruction of their pupils to those which workhouse infirmaries so abundantly afford, by the establishment of hospitals, which only partially provide for the wants of the poor, for the most part being confined to a few medical and surgical wards for adults; children are not received, or aged or insane persons, so that the pupils have not the advantage of witnessing the



treatment of such cases, which form so large and important a share of their attention when in practice, and which workhouse infirmaries would so amply afford.

We also give the following remarks on general paralysis as connected with the results of the examinations which he has himself made:

Post mortem examinations have confirmed the observations in the previous report, that fatal cases of *general paralysis or palsy*, were found to be accompanied by and probably dependent on softening of the spinal marrow, and frequently combined with inflammation of the membranes and fluid in the ventricles of the brain. The attention of pathologists is called to this important subject, as in no English writer has any allusion to it been found. The report goes on to state; although so little seems to be known respecting the pathological anatomy of general paralysis which has only of late years been recognised as a distinct, frequent, and most fatal disease of the insane, it results from my observation that there is no affection of the nervous centres occurring in insanity which presents so well marked and constant morbid changes; and these are seated in the spinal cord, although the brain or membranes are commonly implicated. These changes are chiefly, inflammation of the cord itself or its membranes, (meningo-myelitis,) thickening and preternatural adhesions of the arachnoid; softening, induration, enlargement or atrophy of the spinal cord itself. In the brain, thickening of the arachnoid membrane, with fluid at the base of the skull, and in the ventricles and spinal canal, with a roughness from crystals, as if minute particles of sand were sprinkled on the floor of the 4th, and sometimes to a slighter extent also in lateral ventricles. It may further be observed that general paralysis or palsy sometimes precedes the mental derangement. This would occur where the spinal cord first became diseased, and disease afterwards attacked the brain; such cases originating in the spinal cord, are most likely to be checked if detected early. The application of warmth to the spine caused manifestation of pain here in some patients when percussion failed to do so. General paralysis is, however, most frequently preceded by some form or other of insanity; and it is commonly in such cases the certain forerunner of a more or less speedy and fatal termination; unless a more precise knowledge of its true nature should lead us to a corresponding improvement in its medical treatment.

We observe that in 1867 there were no less than 91 cases of epilepsy in this Institution, of which 46 were men and 45 women. This is remarkably different from anything we have known of the Institution with which this journal is connected, the proportion of female epileptics here being very small. Dr. Boyd has tabulated monthly in each case the *number of fits*, by day and by night. The 46 men had 4,094 fits by day and 2,431 by night. The 45 women had 4,387 by day and 1,810 by night.

We append the following remarks on the treatment of epilepsy :

The bromide of potass has been given to a larger number of cases. The girl mentioned in the last report to whom this drug was given has not had a return of the epileptic seizures; when the slightest indication of her attacks occurs she resumes the use of it. A man employed in the establishment had a very severe epileptic seizure in the spring, which rendered him unconscious for the time; he had the same drug in doses of from 20 to 30 grains and has had no return of the attack since. None of the confirmed cases in the house to whom it was given have recovered, but in most the fits have been less severe and less frequent, and from the experience in this place, it is the drug of all others upon which greatest reliance may be placed. Tincture of "Sumbul" has in a few instances afforded a very considerable relief. Many other drugs have been tried as stated in former reports in cases of epilepsy without any permanent benefit, as "Digitalis," "Belladonna," "Cotyledon umbilicus" artemisia vulgaris, or mug wort, all of which were supposed to have specific effects; in some cases aperients were given with temporary benefit, as sulphate and carbonate of magnesia combined; also tonics, as cod-liver oil, cinchona and nitric acid, and various preparations of iron, strychnine and phosphates.

III. *Forty-Ninth Annual Report of the Visitors of the County Lunatic Asylum, Stafford, for the year ending December 31, 1867.*

Dr. Bower, of this Institution, reports December 31, 1866, patients 496: admitted in 1867, 248, discharged



recovered 99: relieved 5: transferred to to Auxiliary Asylum at Burntwood 21: died 84: remaining December 31, 1867, 535. There are also at Burntwood 223 patients, making a total of 758. There are 1,165 registered pauper lunatics in the County of Stafford.

Dr. Bower complains of the number of idiots sent to the Asylum. In fact, there seems to be too little idea of making separate provision for this class, which in many counties is counted in with the insane. Dr. Bower properly urges separate buildings, or else the opening of wards in connection with the workhouses for them.

IV. *Tenth Annual Report of the Committee of Visitors of the Cambridgeshire, Isle of Ely and Borough of Cambridge Pauper Lunatic Asylum for the year ending December 31, 1867.*

Dr. G. Mackenzie Bacon, Superintendent of this Asylum, reports the number of patients at the close of the year 1866 as 279: admitted during the year 75, of which 14 were re-admissions: discharged recovered 42, relieved 8: died 31: remaining January 1, 1868, 273—men 128, women 145.

About 90 of the patients labor on the farm, and 27 "Ipswich patients" have been removed to their own domicile, to the great relief of the overcrowded wards. In 1860 there were 286 lunatics and idiots belonging to the county; now there are 405. Cambridgeshire is chiefly agricultural, and stands pretty high in its rate of pauperism, there being a very observable connection between the proportions of poverty and insanity in any given district. Thus, in Wiltshire, 1 in every 12 of the population is a pauper, and 1 in 327 insane; while in Westmoreland and Cumberland the pauperism is 1 in 28 and 24 respectively, and the insanity 1 in 517 and 543. The average in England appears to be about 1 in 400 and the average of accommodation in public asylums is 58 per cent. The workhouses have 24 per cent.

private asylums  $2\frac{1}{2}$  per cent. and private families  $15\frac{1}{2}$  per cent. Dr. Bacon states that this asylum provides room for 75 per cent. of the lunatics of the county.

From the steward's accounts we see the weekly charge for maintenance of county patients was 10s. 7d.: for patients out of the county 13s., and for private patients (of which but 1 is reported) 14s. From the "Lady Day Quarter" of 1866 to the "Christmas Quarter" of 1867, flour had advanced from 35s. a sack to 48s.; but beef had fallen from 8s. per stone to 6s. 5d., and mutton from 9s. to 7s. 6d.

The Committee of Visitors in their report, give an account of the sad necessity of having been obliged to remove from his office, Dr. Lawrence, who had been the efficient Superintendent of this Asylum from September, 1860, to October, 1867. The cause was mental incapacity arising from the incipient symptoms of general paralysis. Dr. Lawrence was retired on a pension of £50 a year, and Dr. Bacon, his former Assistant, appointed in his place. The Visitors properly suggest that there should be a permanent Assistant Medical Officer, as the labor is too great for only one physician, which seems to be all that is allowed most of these English County Asylums. The case of Dr. Lawrence is a manifest comment on this system.

V. *Sixth Annual Report of the Cumberland and Westmoreland Lunatic Asylum for 1867.*

Dr. T. S. Clouston, Medical Superintendent, reports at beginning of the year 1867, 278 patients: admitted 97—men 59, women 38: discharged recovered 29, not improved 1: died 31: remaining Jan. 1, 1868, 314—men 179, women 135.

Dr. Clouston makes some suggestive remarks in connection with the fact he gives that there has been a



steady and rapid increase in the number of admissions. This being a young institution, the vicinity is becoming gradually better acquainted with its character and objects, and the consequence is that a much larger proportion of patients are now brought in their acute stage. In relation to the cause of the apparent general increase of insanity, he makes the following rather noticeable observations:

To determine the cause of the apparent increase in such a disease as insanity, which comprises in reality several diseases, it is important to take some of its forms which are so definite in their characters or causes that they can neither be mistaken nor confounded with any other, and of such character that they almost all require Asylum treatment, and see if those are increasing. I have taken the numbers of each of the following forms of insanity that have been admitted each year, viz.: congenital insanity, dating from birth; epileptic insanity, its cause being uniformly epileptic fits; general paralysis, a form of insanity perfectly distinct from all others, and not in any way shading off into any other form; and lastly, puerperal insanity, dependent on childbirth or lactation alone; and I find that the number of cases suffering from those kinds of mental aberration are remarkably uniform during the five years. The numbers are 25, 16, 15, 27, 25, beginning in 1863, that is in 1863, 1866, and 1867, when the Asylum received nearly all the cases from the two Counties, the numbers were almost identically the same, and in 1864 and 1865, when a large number of cases were sent to other Asylums, they were considerably less. This is a most striking fact when we take into account that the total number of admissions, including all kinds of insanity, rose gradually from 47 to 97 in four years. If any one form of insanity were taken, the inference would be open to the objection that the numbers were too few to found any conclusion on them, but by taking the only four absolutely fixed and definite forms of insanity, and three of those almost always requiring Asylum treatment, the conclusion is made almost certain that insanity is not on the increase in the two Counties, but that the numbers annually sent here have hitherto increased from merely temporary causes, the chief of these being the increased wish to send most cases here early, the increased desire among a socially higher class to have their relatives sent here, and the tendency which at present prevails to send old persons laboring under temporary excitement with dotage here.

The committee of visitors speak in high terms of Dr. Clouston's management, and have appointed a medical assistant for him, Dr. Campbell.

VI. *The Seventieth Report of the Friends' Retreat, near York, 1866.*

*The Seventy-second Report of the same, 1868.*

This is an institution under the auspices of the religious society of Friends.

Dr. J. Kitching reports in the latter of the two reports given above, that the number of patients at midsummer, 1867, was 136: admitted during the year 17: discharged recovered 8: improved 1: not improved 1: died 7: remaining at midsummer, 1868, 136—men 52, women 84.

The gross income of the year was £9,556, all of it from patients but £116. The Institution is now out of debt, having made sufficient profit since 1853, to pay the cost of building a wing for the female wards, and several expensive alterations.

Dr. Kitching pays considerable attention to the "development of the *social* life of the insane," and lays a good deal of stress upon attention to individual peculiarities, as distinguished from what he calls the "mass treatment," or classification in groups. His institution, architecturally, doubtless, possesses many facilities for individualizing the treatment; especially as his number of patients is comparatively small, and a large proportion of them females: for whom, also, he has an unusual number of attendants and servants: but of course such arrangements would be impracticable in large public institutions, without swelling the expense beyond reasonable limits. We extract at some length the observations which he made on this subject in his previous report for 1866, embracing his criticisms upon the plan



pursued in Belgium, premising only that the classes he excepts as suitable for the Cottage System are such as we deem the proper ones to be cared for at their own homes :

The amount of personal liberty with which insane persons may be entrusted without detriment to themselves or annoyance to the sane community, is always a question of nice discrimination, and often of anxious care. To the patients themselves, it is one of almost vital importance. Too much liberty, by which delusional or crazy tendencies may be indulged unchecked, till they acquire dangerous proportions or incurable fixedness, is an obvious evil. On the other hand, if caution is carried to timidity, and seclusion to excess, the minds of the patients will deteriorate, the mental powers will become inert, and the blighting haze of dementia will too surely envelope them.

No better illustration can be afforded of the judicious management of lunatics, no stronger proof can be given that a wise humanity has presided over their treatment in the earlier stages of the malady, than the degree in which they retain some power of rational enjoyment, or some faculty of peaceful industry in the long course of the chronic stage. To rescue such a faculty from the long past wreck of reason, is the glory of the treatment; to retain it, is to experience the green old age of insanity.

Closely connected with the question of the personal liberty and the social enjoyment of the lunatic patient, is a subject which has engaged considerable attention of late under the name of the Cottage System of treating lunatics. In the well-known colony of Gheel, in Belgium, this plan has been extensively practiced, and the ideas which underlie the experiment are based upon much that is sound and valuable. They may be enumerated as follows: 1. The view of placing the patient in sane society. 2. That of training him to some industrial pursuit, and giving him an abundance of fresh air. 3. That of allowing him more personal liberty, and a nearer approximation to the ordinary modes of social life than he could have in an asylum. Notwithstanding the plausibility of these views, the plan as carried out at Gheel is acknowledged by some of the best judges to have failed in producing the full benefits anticipated from it.

Its failure was inevitable, as plans founded on wrong principles must sooner or later always be. Whilst seeking to avoid the evils

of large establishments, it ran into the opposite extreme of individual treatment—a mode of treatment the least adapted to many forms of lunacy, even in their chronic stage. The lunatic cannot, in an isolated condition, be supplied with all that he requires on account of the expense of providing it. The treatment must therefore be an associate treatment, except in the case of wealthy persons. Unless the sane persons amongst whom the lunatic is cast, in such an arrangement as that at Gheel, be adapted by the possession of sound judgment and humane motives for rightly influencing the patients, it is evident they must commit errors of the gravest import to the welfare of the latter. The society of sane persons is doubtless a desideratum in the treatment of insane individuals; but to have a beneficial influence in promoting their recovery, the associates of the insane must possess qualities which the rustics of a village cannot indiscriminately claim. It is often feared that the mutual association of insane persons must have a reciprocally injurious influence, and this is often stated as a drawback to sending patients to lunatic establishments. There are cases in which the action of one insane patient upon another is pernicious, but the influence of a sane mind without discrimination and judgment may be much more so. To this I believe all concerned in the management of the insane will readily assent.

The industrial training which forms a prominent feature in the Gheel plan, can be quite as well carried on in a large lunatic asylum, and in the later is much less liable to be monotonous and influenced by sordid motives than in the cottage of the artisan. The third idea, that of less restraint and of exemption from the crowd-force and routine of a large establishment, is only of weight as regards a certain proportion of the insane. In most acute, and all violent cases either of mania or melancholia, the associate action of an establishment, and the moral influence of its power, are of the highest value; means of treatment are also possessed which cannot exist in private dwellings. These views, however, are fully consistent with the belief, that for a portion of the insane, the regulations of a large asylum, the pressure of numbers, and the adaptations for the severer forms of mental disease to which all the inmates must in some degree be subject, are not necessary and are not beneficial; but that, on the contrary, they oppress the mind and form conditions if not unfavourable to recovery, at least productive of much unprofitable discomfort. For these the possession of more personal liberty, the enjoyment of more social advantages and a more home-like mode of life, are conditions, for depriving them of which no



moral or psychological reason exists. There are three classes of patients to whom I think this statement applies.

First—Those patients whose mental impairment consists in the milder forms of melancholia, of moral, or of emotional insanity, which while they deprive them of the faculty of entire self-government and unfit them for the responsibilities and, more or less, for the pursuits of life, neither destroy the reasoning powers, deaden the sensibilities, nor introduce any element of danger into the outer or inner life.

Second—Those chronic cases in which some harmless, fixed delusion, the residuum of a more pervading active form of insanity, co-exists with much power of general self-regulation and an intelligent appreciation of the concerns and interests of ordinary life. Decided intellectual tastes, and love for literary or scientific pursuits, often accompany this stage of insanity, and are cultivated with pleasure and success.

Third—Those patients who are liable to occasional or periodical attacks of acute disorder, but who have long intervals of partial sanity. In some of these cases, the lucid intervals are apparently complete; but to the skilled observer, there is an arrest of convalescence at a sufficient distance from complete sanity, to deter the physician from subjecting the patient, during any portion of the interval, to the difficulty and hazard of self-government and entire freedom from surveillance and control. The writer has for many years entertained the opinion that for patients affected, like those above specified, with the lighter forms of insanity, who retain a large measure of mental and moral capacity, a position in which they might have medical advice and skilled surveillance whilst enjoying a larger range of personal liberty and social intercourse than is possible with the all-embracing arrangements and uniformity inevitable in a large establishment, would not only diminish the sufferings attendant upon insanity in the aggregate, but form an advance in its treatment which claims to be tried at the earliest period that it can be carried into effect.

VII. IRELAND. *Annual Report of the Waterford Asylum for the Insane Poor for the District of the County and City of Waterford, for year ending December 31, 1867.*

Dr. Frederick MacCabe, the Resident Physician of this Institution, reports the number of patients January 1, 1867, as 154: received during the year 43: discharged

recovered 23, improved 7, not improved 1: died 10: remaining December 31, 156.

Physicians in this country may like to see the general classification as to form of Insanity. It is as follows: Mania, 50; Melancholia 12; Dementia 53: Monomania 28; Imbecility 3; Idiocy 2: Epileptics 8. The proportion "probably curable" is 41. One-eighth of the whole number is over the age of 60.

At the date of this report, two new wings to the main building were in process of erection, and a third addition had been provided for, besides a building to be devoted to divine worship. These improvements will increase the accommodation of the Asylum to 200 beds. The average cost of maintenance per head was £24 7s. 9d.

VIII. WALES. *Third Annual Report of the Glamorgan County Lunatic Asylum, Bridgend, for the year 1867.*

The Medical Superintendent, Dr. D. Yellowlees, reports on January 1867, 278 patients: admitted during the year 98: discharged recovered 29: not recovered 4: died 20: remaining December 31, 323. The mortality, it will be seen, was but  $6\frac{1}{2}$  per cent. In the three years this Asylum has been in operation, the deaths have been 34 among the men, and but 5 among the women. Dr. Y. states that patients are now usually brought at an earlier period of the malady than formerly and that "the preliminary probation at the workhouse is less frequently insisted on."

He also bears the usual testimony as to the value of occupation, and subordinately, of amusements. He says:

Nothing is so conducive to health, both of body and mind, as suitable occupation; and nothing tends more to promote contentment and recovery. Great pains are therefore taken to find employment of some kind for all who are capable of it.

The ordinary domestic work of the wards, of course, furnishes occupation for a large number on both sides of the house. The



women are also employed in sewing and knitting, or in the laundry and kitchen. The men work in the garden and fields, or with the tradesmen, as tailors, masons, and blacksmiths. Their only remuneration is luncheon in the forenoon, and an extra allowance of snuff, tea, or tobacco. The numbers employed are very large, averaging nearly three-fourths of the entire number of patients. The economic value of their work is therefore great, while the gain to themselves in health and happiness is greater far.

Amusements are much less valuable as a means of treatment than occupation; but they are very necessary to relieve the monotony and routine of asylum life. All kinds of games are therefore encouraged, and the weekly ball continues to be enjoyed as much as ever.

The value of *early* treatment is also shown by the fact that out of 54 admissions, being cases of less than six months' standing, 41 were regarded as curable, and 16 of the 41 had been already discharged: while out of 44 cases of longer duration, only 7 were regarded as curable, and but *one* had been discharged.

Dr. Y. adds to his report a "Medical Appendix," by way of recording his observations in the matter of treatment, and drawing general principles.

A large portion of this paper we think the specialty will thank us for transferring to our pages:

It is a frequent but I believe an unjust reproach cast upon the medical officers of asylums, that they forget their character as physicians and degenerate into "mere house-stewards, farmers, or secretaries." This impression arises not unnaturally perhaps from the fact that their Annual Reports contain, except in the case of a very few asylums, very little that is strictly medical. They are reports of county institutions presented to non-professional men, and they therefore refer chiefly to the progress, efficiency, and special circumstances of each institution: it does not appear to be their purpose, and scarcely perhaps their legitimate use, to give details of individual cases nor experiences as to the value of certain drugs.

On the other hand, it is greatly to be regretted that the invaluable medical lessons, which every asylum teaches, should be so

often buried hopelessly and uselessly in its case books. It is also perhaps matter for regret that when these experiences are recorded they should so often be divorced from the asylum where they were gained, and should appear as isolated communications in the pages of a medical journal. The causes and phases of Insanity in each asylum, and consequently to some extent the opinions and experiences of its physician, are materially influenced by the habits, occupations, and general tone of the population from which the patients are derived—an agricultural, a mining, a seafaring, or an artisan population retaining even in insanity something of their distinctive features. It seems to me therefore that these experiences can be best recorded, at least in the first instance, in an occasional Medical Appendix to the Annual Report of the Asylum to which they were made.

The right use of sedative or narcotic drugs is certainly one of the most important practical questions in the treatment of insanity.

The general impression OUTSIDE of asylums too often appears to be that whenever a lunatic becomes troublesome and restless, or is supposed to be dangerous, he must be forcibly restrained, either by a strait waistcoat or by a number of his neighbours, and forthwith drugged by narcotics into quietness or stupor. Even when restraint is not practiced, narcotics are held to be indispensable and are used freely and indiscriminately.

It is quite possible even IN asylums to acquire  
*Narcotics* unconsciously the habit of too readily resorting to  
*and* sedative or narcotic medicines, when a patient is  
*Sedatives.* is found or reported to be more excitable or more  
troublesome than usual. It saves a great deal of  
trouble to the attendants, and of annoyance to the other patients; it procures quietness, of a certain kind, in the Wards; it is much the easier way, and is perhaps more gratifying to a false medical pride, than to prescribe such ordinary remedies as castor oil, a country walk, some hard work, or some mental occupation.

While fully acknowledging the great value of sedatives and narcotics in many cases, I believe the habitual indiscriminate use of this class of remedies to be needless and baneful. It is certain that they often fail to produce the desired effects, and that it is frequently necessary to try in succession many different kind of sedatives, each of them affording only very temporary benefits; further than this, I have convinced myself by suddenly withdrawing the sedative, and suddenly resuming it again after an interval, that the satisfactory results it was supposed to be producing were



often more apparent than real, or were due to some other cause than the action of the drug. I recommend this perfectly legitimate experiment to any whose faith in sedatives is unshaken.

It cannot be questioned that when these drugs are not necessary, they must be to some extent injurious by lessening the appetite, impairing digestion, restraining secretion, and producing constipation. I believe they are frequently injurious in a more serious way—by prolonging or confirming the mental disorder, and that not only *indirectly* by lowering the general health, but also perhaps *directly* by their sedative effects on the brain.

I am satisfied that I have seen cases where their administration was injurious, and where recovery was retarded by their use. These have been chiefly cases of acute mania, accompanied by great excitement, occurring in patients under 25 years of age. Although the remedy served its purpose in moderating excitement, and did not appear to affect the general health, yet a period of prolonged modified excitement followed, and convalescence was tardy and unsatisfactory, as if the hyper-activity of the brain had been unwisely or prematurely checked.

A somewhat similar condition occasionally occurs without the administration of drugs; every now and again cases are seen of which one can predict that the patient must be worse ere he is better, and in which an attack of excitement would be a welcome and hopeful sign.

In the class of cases to which I refer, it seemed as if these mysterious and inscrutable brain-cells—of which we think so much and know so little—were surcharged with a morbid activity which must work itself off somehow, or were in a state of morbid tension which must find relief by undue rapidity of action, and as if the sedative had checked or retarded the only method by which this tension could be relieved.

Of course there are cases where this hyper-activity manifests itself so fiercely and so dangerously that it must be modified if possible, but in cases of acute mania occurring in early life I believe that narcotic and sedative medicines are apt to do more harm than good, and that they should generally be withheld if the patient be at all manageable without them.

It is no reproach to the physician thus to await the natural elimination of disease, while guarding and assisting the patient safely through it; the real reproach would be thoughtlessly or needlessly to interfere.

The right use of stimulants is another very important question.

The popular impression is that a lunatic must be "kept low," and friends often err in this respect with the best intentions, for assuredly the first principle in the treatment of mental disorder is to establish the bodily health, and to maintain it in as perfect a condition as possible. So true is this that it frequently comprises the whole of the direct physical *Stimulants*. treatment, and the mind recovers as the bodily health improves. This is especially true of some forms of melancholia, of neglected puerperal cases, and of insanity from over lactation or any similar exhausting cause.

It is in these cases too that the value of stimulants—with or without sedatives—is often strikingly seen. They are of great service in calming restlessness, relieving depression, and producing sleep, and they can be given freely in the dietary with marked benefit and without inducing any excitement. They are also of great value in maniacal excitement when tending to exhaustion, or when occurring in a weakly patient.

If the general health can be maintained at a high standard without stimulants, I think they should not be habitually used by the insane, or only very sparingly; but if the physical condition begins to fail, they should be promptly and freely given; it is important to observe the earliest signs of failing health, for it is much easier to maintain the healthy standard than to regain it when it has once been lost. As a prop for a case which threatens to fail, nothing seems to answer so well as the best kind of porter.

As a general rule, whenever the physical condition really requires stimulants, the brain will bear them without injury.

This is true even of general paresis, in which disease stimulants are so universally condemned; the form in which the stimulant has long been regularly given to these cases here is a glass of whisky in a basin of arrowroot about 9 P. M.; this is found to answer remarkably well. Stimulants should always be given to the insane *with* food.

The doctor shows an amusing deference to the "great principle of Non-Restraint" in his apology for using "gloves" with some destructive patients, rather than the padded room, or hot baths and wet sheets, or especially the doses of digitalis and opium so much in vogue in the English Asylums. We think his course only does credit to his medical judgment in spite of



popular prejudice. He is quite right, in the view of all really scientific men, when he lays down the axiom, that Non-Restraint, as well as Restraint, "is a good thing *only when, and just because* it is the best thing *for the patient.*"

*Annual Report of the Waterford Asylum for the Insane Poor for the District of the County and City of Waterford, for the year ending Dec. 31, 1868.*

The resident Medical Superintendent, Dr. Frederick McCabe, reports to the Governors and Directors, patients in asylum Dec. 31, 1867, as 156: admitted since 65: discharged recovered 32, improved 4, unimproved 6: died 12: remaining Dec. 31, 1868, 167—men 81, women 86. He mentions the remarkable fact that in 1835 when the Institution was commenced with 100 beds, the population of the district was 177,054, but now with the accommodation doubled (200 beds) the population is less by over 19,000 than in 1835. Yet it appears that there are 120 lunatics, idiots, and epileptics at large in the Waterford district exclusive of those in the asylum and in poorhouses. In filling up the increased accommodation however, preference will be given to recent cases. It would seem that poorhouses in Ireland must be better managed than in this country, as Dr. McCabe has no hesitation in sending his chronic cases to them. He says that in the County and Borough Asylums and other registered institutions of England and Wales, there are 33,213 patients, and of these only 3,384 or about 10 per cent. are deemed curable. The classification of the patients in the asylum during the last year is as follows: mania 33: melancholia 18: dementia 83; monomania 17: imbecility 5: idiocy 2: complicated with epilepsy 9: convalescent 18: curable 32: probably hopeless 135.

In the matter of expenditure, it is found that each patient costs £24 11s. 7½d.

IX. SCOTLAND. *Twenty-eighth Annual Report of the Crichton Royal Institution and Southern Counties' Asylum, Dumfries, for the year 1867.*

Dr. James Gilchrist is the Medical Superintendent of both these Institutions. The former is for private patients, the latter for both private and public.

The Crichton Royal Institution had at the close of the year 123 patients, the Southern Counties' Asylum 304.

The statistics of both combined are as follows: Number of patients November 11, 1866, 411: admitted 118: discharged recovered 41, relieved 25, not improved 1—incurable 9: died 35: remaining November 11, 1867, 427. The applications were 189 against 118 admissions. Of the admissions 78 were single, 30 married and 10 widowed. About half were pauper.

The following table may be of interest, as also the analysis of the residents as to health. It is taken from the report on the Crichton Institution:

Employed industrially, men 10, women 9; employed for amusement, men 12, women 9. Taking exercise—under superintendence—in airing court, men 4, women 4; do. in grounds, men 63, women 27; do. beyond walls, men 42, women 22. Taking exercise on parole—in grounds, men 10, women 5; beyond walls, men 3, women 3. Dining in association, men 57, women 26. Confined to house by medical order, men 7, women 9; do. from caprice, women 1. Confined to bed from disease or debility, men 1, women 7. Special dresses, with special fastenings, women 5; do. with locked boots, women 5; do. with quilted blankets, men 1, women 6. In seclusion in bed-room, women 1; do. in seclusion room, women 3. Sleeping on stretchers, women 1. Raised by night attendant, men 7, women 6.

*Health.*—An analysis of the residents gives the following results as to general health.

Forty-three are *apparently* unimpaired in bodily health, namely, ten females and thirty-three males.

*Impaired.*—Thirty-nine; twenty-one males and eighteen females.



*Diseased*.—Forty-one; nineteen males and twenty-two females.

*Moribund*.—None.

*Medical Treatment*.—There are under special medical treatment for bodily diseases, fifty-two, namely, thirty-three males and nineteen females.

For mental ailments, twenty-two; eleven of each sex. In all, seventy-four.

Under *Special Medical Diet* for bodily ailments—thirty. Seventeen males, and thirteen females.

*For Mental Ailments*.—Seven males and ten females. In all, forty-seven.

Thirty-two are helpless. One is paralytic. Two are epileptics. Eight are suicidal. Three are self-injurers. Sixteen are of dirty habits. Twenty-eight are of dangerous and destructive habits. Seventeen have offensive or improper habits. Twenty-four are noisy.

This analysis will give some idea of the work and worry involved in the management of an asylum.

The health classification of the Counties' Asylum, with its 82 private patients and 222 pauper, is as follows:

*As to Health*.—Sixty-eight give indications of being perfectly healthy, two hundred and three are considered as laboring under impaired health, forty are diseased, and five are regarded as moribund, twenty-two are epileptics, four are paralytics. Thirty-five are under special care for wet and dirty habits, twenty-seven for dangerous or destructive habits, twenty-six for improper or immoral habits, and sixteen for suicidal propensities. There are under special medical treatment, for mental ailments, twenty-six; for bodily ailments, twenty-eight.

During the last year new buildings have been erected for infirmary accommodation, "Special Galleries" for private patients at an additional charge, who "do not mingle with the other inmates except on public occasions," and for other purposes, such as bath-rooms, &c.

X. *Forty-eighth Annual Report of the Directors of the Dundee Royal Asylum for Lunatics, June 15, 1868.* Dundee.

This is a chartered Institution. Dr. James Roice, the Medical Superintendent, reports the number of patients

in asylum June 15, 1867, as 182: admitted since 61: discharged recovered 24: not recovered 12: died 14: absent on probation 1: remaining June 15, 1868, 191. Eight of the cases discharged not recovered, were removed to the lunatic wards of poor-houses. Dr. Roice refers to the difficulty of providing for cases apparently quiet on removing them from the asylum, as many are often brought back in a state of maniacal excitement. He also testifies to his experience of the good effects of amusements and literary entertainments.

The directors mention three legacies to this asylum during the past year, one of £100, another of £200, and a third of £2,000.

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## ENGLISH DIETARY SYSTEM IN COUNTY ASYLUMS.

There is one branch of asylum management which appears to receive more careful attention than is common among us; we mean the "Dietary" System, and we have therefore thought it might be a matter of some interest to give a few specimens of the "Diet-tables" appended to some of these English reports.

At the Bristol County Asylum, the breakfast is the same every day in the week, viz.: 8oz. bread for men and 6oz. bread for women:  $\frac{1}{2}$ oz. butter, and one pint coffee for each.

For dinner, on Sundays and Wednesdays, the men have 4oz. corned beef, the women 3oz.: the men 16oz. vegetables, the women 12oz.—this also on Mondays: and *every day* to each one-half pint of beer. On Mondays the men have 8oz. roast meat, the women the same: on Tuesdays and Fridays, soup or "stew," and 4oz. bread to both: on Thursdays, meat pudding with boiled potatoes, 16oz. to men and 12 to women: on Saturdays,



currant or raisin pudding with sweet sauce, 12oz. to men and 8oz. to women.

For tea, 8oz. bread to men, 6oz. to women, with  $\frac{1}{2}$ oz. butter and one pint tea to each every day in the week.

At the *Cumberland and Westmoreland Asylum*, breakfast consists of 8oz. bread to men only on Sundays: to women 6oz. every day: pint of oatmeal porridge and milk to men every day but Sunday: pint of coffee and  $\frac{1}{2}$ oz. butter to men on Sundays, to women every day.

For dinner, on Sundays, meat pie, 10oz. to men, 9 to women: bread every day but Sunday and Tuesday, 3oz. to men, 2 to women, except on Saturday, when the ration is 7oz. to men and 5 to women: on Mondays and Thursdays, "cooked meat free from bone," 5oz. to men, 4 to women: on Tuesdays, "dumpling," 16oz. to men, 13 to women: on Fridays, "Irish stew," 22oz. and 18oz.: on Sundays, Mondays and Thursdays, cooked vegetables, 12oz. and 9oz.: on Wednesdays, "potato-pot," 22oz to 18: on Saturdays,  $1\frac{1}{2}$  pints broth to each: and on every day but Saturday a pint of milk to men and  $\frac{3}{4}$  of a pint to women.

For supper, 8oz. bread to men, 6oz. to women, 1 pint tea and  $\frac{1}{2}$ oz. butter every day in the week, except that on Tuesdays and Fridays cheese takes the place of butter. Working patients have an extra ration at each meal of 3oz. bread and an ounce of cheese.

We subjoin the recipes given for some of the above mentioned articles:

**PORRIDGE**—Six ounces of oatmeal to each pint. **COFFEE**—For 100 persons, 20 oz. coffee, 10 oz. chicory, 4 lbs. sugar, and 3 gallons of milk. **DUMPLING**—For men, each 9 ounces flour, 1 ounce currants and raisins, one-sixth of an ounce of sugar, and 2 ounces dripping. For women, each 7 ounces flour, 1 ounce currants and raisins, one-sixth of an ounce of sugar, and 2 ounces dripping. **MEAT PIE**—For men, each 6 ounces of uncooked meat free from bone, 3 ounces of flour, and 1 ounce dripping. For women, each 5

ounces of uncooked meat free from bone, 3 ounces of flour, 1 ounce of dripping, and seasoned to taste. **IRISH STEW**—For 100 persons 32 lbs. of uncooked meat free from bone, 6 stones of peeled potatoes, with a suitable dilution of water and pepper and salt to suit taste. **POTATO-POT**—For 100 persons, same as Irish Stew. **BROTH**—For 100 persons, 28 lbs. meat (necks, houghs, &c.) including bone, 10 lbs. barley, liquor from stewed bones, thickened with bread crusts and vegetables, and seasoned to taste. **TEA**—For 100 persons, 1 lb. tea, 4 lbs. sugar, and 2 gallons of milk.

The Stafford County Asylum has the following: For breakfast, 1 pint cocoa with milk and sugar, every day to both sexes: 8oz. bread without butter to men, and 6oz. with butter to women daily.

For dinner the men have 6oz. bread and  $\frac{3}{4}$  pint beer daily; 6oz. cooked meat with potatoes on Sundays, Wednesdays, and Fridays; soup and rice pudding—10 oz.—on Mondays and Thursdays, and 14oz. meat pie on Tuesdays and Saturdays, on which days the bread ration is reduced one-half. The women have the same on the same days, an ounce or two less in quantity, the ration of beer being  $\frac{1}{2}$  pint.

For supper, the men have 8oz. bread, 2oz. cheese, and  $\frac{3}{4}$  pint beer, daily: the women 6oz. bread,  $\frac{1}{2}$ oz. butter, and 1 pint tea, daily.

Extras in case of illness or debility.

This gives 30 ounces meat cooked and free from bone consumed by each male patient weekly, and 24oz. for each female. The following recipes are given:

*To make Soup for 100 Patients.*—The liquor in which the meat of the previous day has been boiled, 12 $\frac{1}{2}$  pounds of meat, consisting of legs and shins of beef, 1 $\frac{1}{2}$  pounds of rice, 3 pounds of onions, 3 pounds of leeks, 6 ounces of salt, 2 ounces of pepper, 3 $\frac{1}{2}$  quarts of peas, with herbs, &c., consisting of carrots, turnips, cabbage, celery, parsley, and parsnips, according to the season, and sufficient water to make 100 pints.

*To make Cocoa for 200 Patients.*—9 pounds and 6 ounces of cocoa, 6 pounds and 4 ounces of sugar, 9 quarts of milk, and sufficient water to make 200 pints.



*To make Coffee for 200 Patients.*— $3\frac{1}{2}$  pounds of coffee,  $6\frac{1}{4}$  pounds of sugar, 9 quarts of milk, and sufficient water to make 200 pints.

*To make Tea for 200 Patients.*—1 pound and 9 ounces of tea,  $6\frac{1}{4}$  pounds of sugar, 9 quarts of milk, and sufficient water to make 200 pints.

The following is the “dietary scale” reported in the Waterford Asylum for 1868.

BREAKFAST.—Oatmeal, 8 ozs.; new milk,  $\frac{1}{3}$  quart.

DINNER.—Sunday, Tuesday, and Thursday:—Beef, 8 ozs. in quart of soup; and bread—males, 10 ozs.; females, 7 ozs. Monday, Wednesday, Friday, and Saturday:—New milk,  $\frac{1}{3}$  quart; and bread—males, 10 ozs.; females, 7 ozs.

SUPPER.—Cocoa, 1 pint; and bread—males 8 ozs.; females 7 ozs. Working patients get 8 ozs. meat in pint of soup, or, if preferred, 6 ozs. additional bread, on days of milk, for dinner.

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## S U M M A R Y.

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A MEDICO-LEGAL CASE OF INJURY TO THE NERVOUS SYSTEM.—Early in February last I was called in consultation by Dr. Slight, of Brewer street, to a foreign tailor, A. K——, aged fifty, who had been knocked down three weeks previously by a van. He had received some scalp wounds at the back of the head, and bruises about the body, apparently from the horses’ hoofs; and was said to have been stunned for a few minutes. I found him in bed, complaining of pain about the left side of the head, and speaking in a peculiarly slow and labored manner. He had a quick pulse, and his head was hot. I was informed that he had been almost constantly drowsy, requiring to be roused before he could reply to questions. He volunteered the information that objects frequently appeared double to him. There was no apparent paralysis of face or limbs. His symptoms appeared referable to concussion.

On April 16th and 18th Dr. Slight brought him to my house. His speech had then greatly improved, and he looked much better in general health. He walked lame, however, leaning heavily upon a stick held in the left hand, and dragging the right leg. The

grasp of the right hand appeared very defective. There was no drawing of facial muscles. It seemed that he left his bed a month after the accident; and it was then noticed that his right leg gave way under him, and his right arm was deficient in power. Sensation being tested, we found that he denied feeling compass-points or pinches over the *right* upper and lower extremity. Now, if this were a case of spinal hemiplegia (which the total absence of facial palsy seemed to indicate,) there should have been hyperæsthesia of the paralyzed limbs, with anæsthesia of the opposite side. This discrepancy, coupled with the fact that the patient was then bringing an action for damages against the owners of the van, threw the gravest doubts upon the genuineness of the symptoms. Before proceeding any further, therefore, I resolved to test, by a carefully-contrived experiment, the truth of his assertion that he had lost sensation in the right limbs; and as the means employed were, so far as I know, novel, I will describe them. The lower extremities being bared, I brought near them Stöhrer's induction machine, with its two wires and sponge directors connected with it. I attached, also, to the *box* (not to the working portion) two other wires and sponges; and I gave one of *these* to the patient, directing him to press the sponge on the outside of his left thigh, and the other to Dr. Slight, requesting him to apply it to the same limb on a given signal. Meanwhile, the patient's whole attention being occupied with these pretended operations on his left thigh (the unaffected one,) I applied one of the real sponge directors to the right thigh, and, at the signal, clapped on the other to the same limb; thus directing the most powerful current upon the skin of the paralyzed thigh. At the same moment my assistant applied his sponge. Watching the patient's face we failed to discern in it the slightest expression of consciousness that he was receiving a current, the pain of which is well-nigh insupportable. I then reversed the whole apparatus, applying the electric current to the left thigh. Upon this the patient started with a shriek of unmistakable pain, and nearly fell from his seat. The result of this experiment showed conclusively that, to the electric current at least, there was anæsthesia of the right thigh, and removed at once our doubts of the patient's credibility. Further examination confirmed this view. A thermometer left five minutes in each axille marked  $98.1^{\circ}$  on the right side, and  $97.9^{\circ}$  on the left. Careful measurement showed that the right thigh, 6 inches above patella, was  $\frac{5}{8}$  inch less than the left; and the right leg, 6 inches below patella, was  $\frac{3}{8}$  inch less than the other. The arms were equal. Electro-motility was good everywhere ex-



cept in the thumb muscles of the right hand. Asked to raise his right leg, the foot "dropped" as it was lifted from the ground. I should say here that the fingers of the affected hand were quite flaccid.

On June 13th, measurement showed that the right upper extremity had wasted since last examined. The right arm, 6 inches above olecranon, was  $\frac{1}{2}$  inch less than the left; the right forearm, 6 inches above lower end of ulna,  $\frac{1}{4}$  inch less than the other. The disparity between the lower extremities had increased. The right thigh, 6 inches above patella, was now  $\frac{7}{8}$  inch less than the left; the right leg, 6 inches below patella,  $\frac{1}{2}$  inch less than the other. An important change, too, had taken place in the right hand. The middle, ring, and little finger were rigidly contracted upon the palm, and could not, by any exertion of force on my part, be extended. The tendons could be seen and felt projecting and hard in the palm.

On November 20th, the patient walked freely, and there was no dragging of the right leg. The measurement of the thighs and legs was now found to be equal. The wasting of the right upper extremity had increased. The right arm was  $\frac{5}{8}$  inch less than the left; the right forearm  $\frac{3}{8}$  inch less than the other. The rigidity of the fingers was still more marked than at the last examination. Sensibility was much improved in the right limbs, but was still apparently defective.

At the end of November the case was tried in court, and the plaintiff recovered damages, the testimony of Dr. Slight and myself being to the effect that the plaintiff was permanently disabled in the right hand. The man had been examined, on the part of the defendants, by two eminent surgeons, who were not called, and no opposition was offered to the medical testimony.

The very careful examination to which this patient was subjected, and his gradual progress to recovery (except in the use of certain fingers,) make it evident that he did not pretend his symptoms. The wasting of the limbs and the rigid contraction of the fingers he *could* not simulate. As regards the nature of the nervous lesion, one can only suggest the probability that blood was effused, a part of which became gradually removed by absorption and a part converted into a cyst or hæmatoma, which encroached upon and destroyed a small portion of nerve-substance. Its exact situation, and whether, as is quite possible, there was more than one lesion, are points which necessarily remain doubtful.—*Thomas Buzzard, M. D., in the London Lancet for March, 1869.*

LOSS OF THE GREATER PART OF THE VAULT OF THE CRANIUM—RECOVERY.—M. S., aged seventy, unmarried, called on me *at my own house*, on the 10th of last September, to consult me about what she called a “sore head.”

*History.*—Catamenia have ceased some fifteen or twenty years; enjoyed good health till about ten years ago, when, “owing to trouble,” she got epileptic fits for first time. The fits recurred about once a month.

About three months before the date of the present visit, (sometime in the month of June,) whilst reaching for some article on the chimney-piece, she was seized with a fit and fell into the fire, striking her head, as she fell, against the hob of the grate; the head was burnt very severely, and having applied “many sorts of plasters,” and the sore not healing, she at length came to me.

When she removed a most ingenious front of her own devising and the dressings, I saw, what she called a “sore!”

The integuments covering the top of the head were entirely gone, save a small isolated portion situated on the posterior part of the right parietal bone, separated from the living coverings of the head by a line of large flabby granulations, which, encircling the skull, cut off the denuded dead bone from the live integuments; included by this line were nearly the whole of the two parietal parts of the frontal and occipital bones, the isolated portion of the scalp before alluded to, and a small piece of pericranium dry and shrivelled, closely resembling old parchment; with this exception the bones were perfectly bare, quite dry, and warm to the touch.

On the right parietal bone a fracture running parallel to the sagittal suture, and sending off a branch which crossed it, was distinctly to be seen.

The granulations bled on being touched, and exuded healthy-looking pus. There was a rather fetid odor.

Since the accident, she had not had a single bad symptom. She said “she would be all right if the head healed up, as the discharge annoyed her.”

The fits had not recurred.

Tongue was red, dry, and glazed down the middle; stomach rather irritable; pulse about 90 to 95, and weak; bowels inclined to be costive; appetite tolerable. She came to my house weekly, till the 7th of November, during which time the process of separation went on gradually.

On the 17th of November I was sent for, to see her for the first time in her own house, and found that while her sister was washing



the head, it being stooped over a basin, the calvarium had glided over her face into the vessel, leaving bare the dura mater, covered with healthy looking granulations, and perforated with three or four small holes, through which the brain substance could be seen. The portion of bone which came away consists of a small piece of the frontal, almost the entire of the two parietal, and a bit of the occipital bones. It measures seven inches from before backwards, and nearly five from side to side at its broadest part. (It is now in the museum of the Adelaide Hospital.)

The raw surface left exposed has healed up wonderfully, and is at present almost entirely skinned over. The tongue has become quite healthy in appearance, the pathway down the centre being gone. The pulse has fallen to about 75, and got soft and full; the appetite greatly better; and the appearance of the patient is improved. She has picked up flesh, and is able to go about the house, and is only kept in by the inclemency of the weather.

She suffered a good deal from neuralgia, whilst the bones were separating. The treatment was very simple, a weak solution of chloride of lime to the ulceration, and some pills to keep the bowels regular. After the calvarium came away, at first simple dressing, then weak citrine ointment (1 part to 8,) and touching the granulations once or twice a week with nitrate of silver. Good nourishing food and exercise in the open air, whenever the weather permitted, were ordered; all stimulants were strictly forbidden.

When only a portion of the bone had separated, a distinct pulsation could be seen, but when they came away entirely, I could perceive none.

Here is an injury which *a priori* would have been judged necessarily fatal. The extensive lesion over a cavity containing so delicate an organ as the brain, complicated by a blow, causing a fracture, the exfoliation of so large a portion of the skull, and the cicatrizing of the raw surface underneath, I believe to be unprecedented.

The entire absence from first to last of a single bad symptom.

The cure of the epilepsy of ten years duration.

A sensation of lightness and giddiness which was felt after the bones came away, disappearing as the wound healed, owing to the contraction of the cicatrix, compensating for any pressure that may have been lost, is worthy of remark.—*Dublin Quarterly Journal of Medical Science for February, 1869.*

THE GYNÆCOLOGICAL SOCIETY, of Boston, has been lately formed for the purpose of advancing the Study and Treatment of the Diseases of Women. Its founders are George H. Bixby, Samuel L. Dutton, H. M. Field, Winslow Lewis, John C. Sharp, Horatio R. Storer, Levi F. Warner, and William G. Wheeler, and the officers for the year, are Winslow Lewis, President; Horatio B. Storer, Secretary; and George H. Bixby, Treasurer. The members are required to be graduates in medicine, having an interest in Gynæcic Science and Art, and are bound by the Code of Ethics of the American Medical Association. The active members are assessed ten dollars annually, two-thirds of which are expended, by a Committee, for gynæcological journals and books of recent dates, especially those published in foreign languages, which are circulated among the members in turn, and of which abstracts are to be presented to the Society periodically.

Professor Storer announces his fifth private course on the Treatment of the Surgical Diseases of Women, with illustrative operative instruction, to be delivered during the first fortnight in June next, at the Franciscan Hospital for Women, in Boston.

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COLLOID OF THE BRAIN.—M. Magnan presented, recently, to the Biological Society of Paris, preparations of colloid substance observed upon the surface of the brain of a patient who had yielded gradually to the progress of general paralysis. The colloid substance was located in the gray substance of the convolutions of the frontal and spheroidal lobes. It was opaline in color, and depressed the cerebral substance. It appeared in the form of small islets. Examined with the microscope, there were observed in it concentric disks of a brilliant opaline matter, studded with shining nuclei, and in the middle of the central disk, a capillary vessel with thickened walls was perceived. The nervous substance itself was altered in the same manner as the connective tissue; that is to say, it was shining like the nuclei. By comparative examinations of several



preparations M. Magnan has been led to think that the histological changes commenced in the nuclei, and invaded secondarily the nervous cells.

Treated with tincture of iodine and ether, these preparations preserved their primitive aspect. The alterations were, therefore, due neither to fat nor to starchy matter.—*Gazette Médicale, Paris.*

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ASSOCIATION OF MEDICAL SUPERINTENDENTS OF INSTITUTIONS FOR THE INSANE.—The Secretary, Dr. Curwen, gives the following official notice:

The Twenty-third Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, will be held in Staunton, Virginia, commencing at 10 A. M. of Tuesday, June 15, 1869.

At the solicitation of Dr. Stribling, the presidents of all the railroads in Virginia have agreed "that any member of our Association, who shall have paid full fare in attending the meeting, will be permitted to return over the same road free of charge."

There are two hotels in Staunton, about equally well kept and within 150 yards of each other. It might be that the members could be made more comfortable by dividing, and thus avoid crowding either.

Members leaving Washington or Baltimore in the morning will reach Staunton that day at 3½ P. M. by taking the cars of the Orange & Alexandria R. R., which connects at Gordonville with the Chesapeake & Ohio Railroad going directly to Staunton.

HARRISBURG, March 30, 1869.























